MOISEYEV, V.D.

MOISEYEV, V.D., insh.

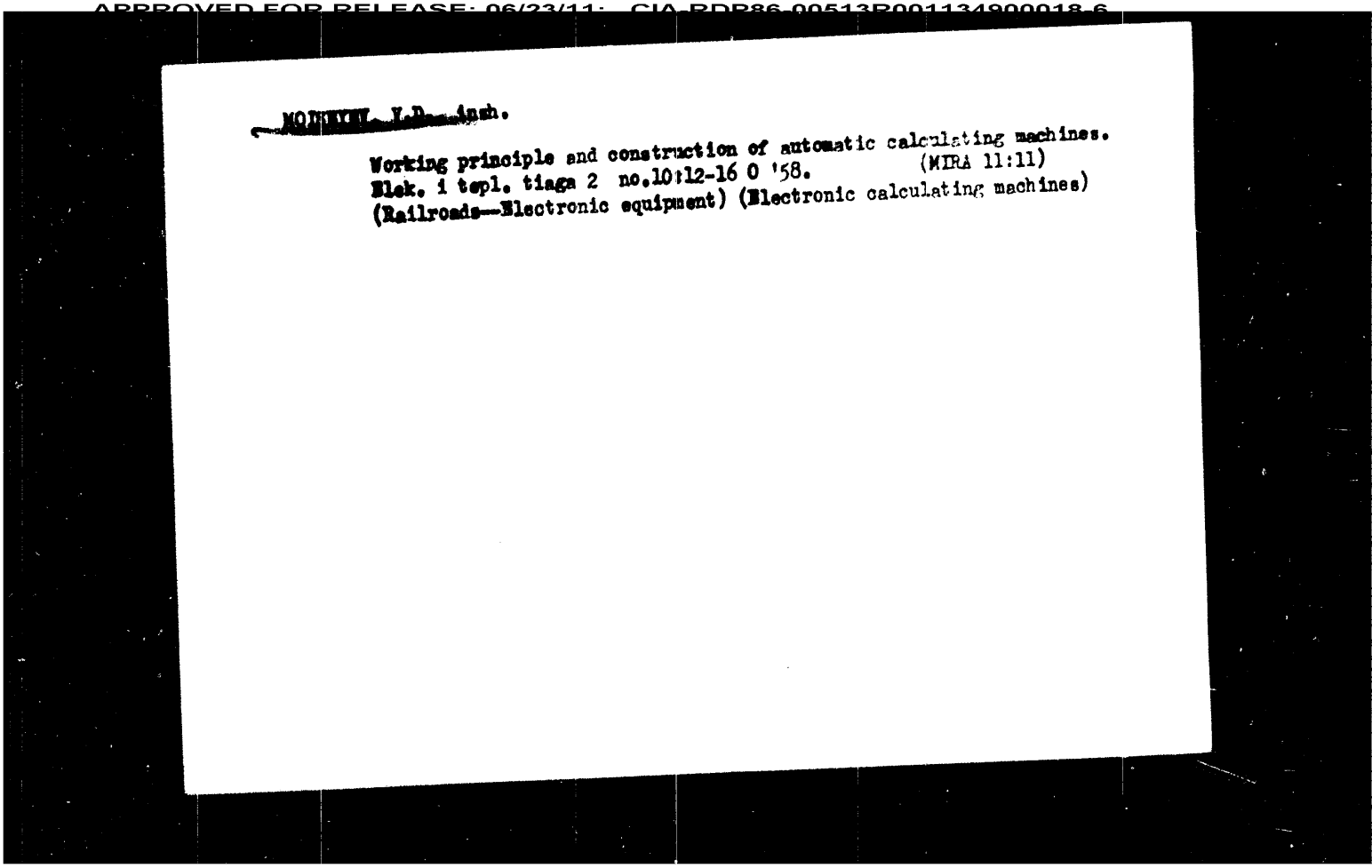
Prospective development of railroad automatic control and telemechanics in the light of modern scientific and technological achievements. Zhel. dor. transp. 40 no.1:32-38 Ja '58. (MIRA 11:1)

(Railroads--Signaling)

MOISEYEV, V.D., inzh.

Prospects for introducing automation into building for the transportation industry. Transp.strei. 8 no.12:6-10 D '58. (MIRA 12:1)

(Automation) (Building) (Transportation)



[redacted] Yu.D., inzh.

Working principle and construction of automatic calculating machines. Elek. i tepl. tiaga 2 no.10:12-16 O '58. (MIRA 11:11)
(Railroads—Electronic equipment) (Electronic calculating machines)

NOSEYEV, V.D., inzhener.

Automatic compilation of train movement and time schedules.
Zhel.dor.transp. 39 no.7:31-37 Jl '57. (MLRA 10:8)
(Railroads--Timetables)
(Electronic calculating machines)

MOISEYEV, Vladimir Dmitriyevich; SUKHOV, B.V., inzhener, redaktor; BOBROVA, Ye.N., tekhnicheskiy redaktor

[Automatic calculating machines and their utilization in railroad transport] Avtomaticheskie vychislitel'nye mashiny i ikh primenenie na zheleznodorozhnom transporte. Moskva, Gos. transp.zhel-dor. izd-vo, 1957. 202 p. (MLRA 10:10)
(Electronic calculating machines)
(Railroads)

MOISEYEV, V.D., inzhener.

Automatization of work in mechnized humpyards. Zhel.dor.transp. 37 no.1:49-55 Ja '56. (MLRA 9:3)
(Railroads--Automatic train control)

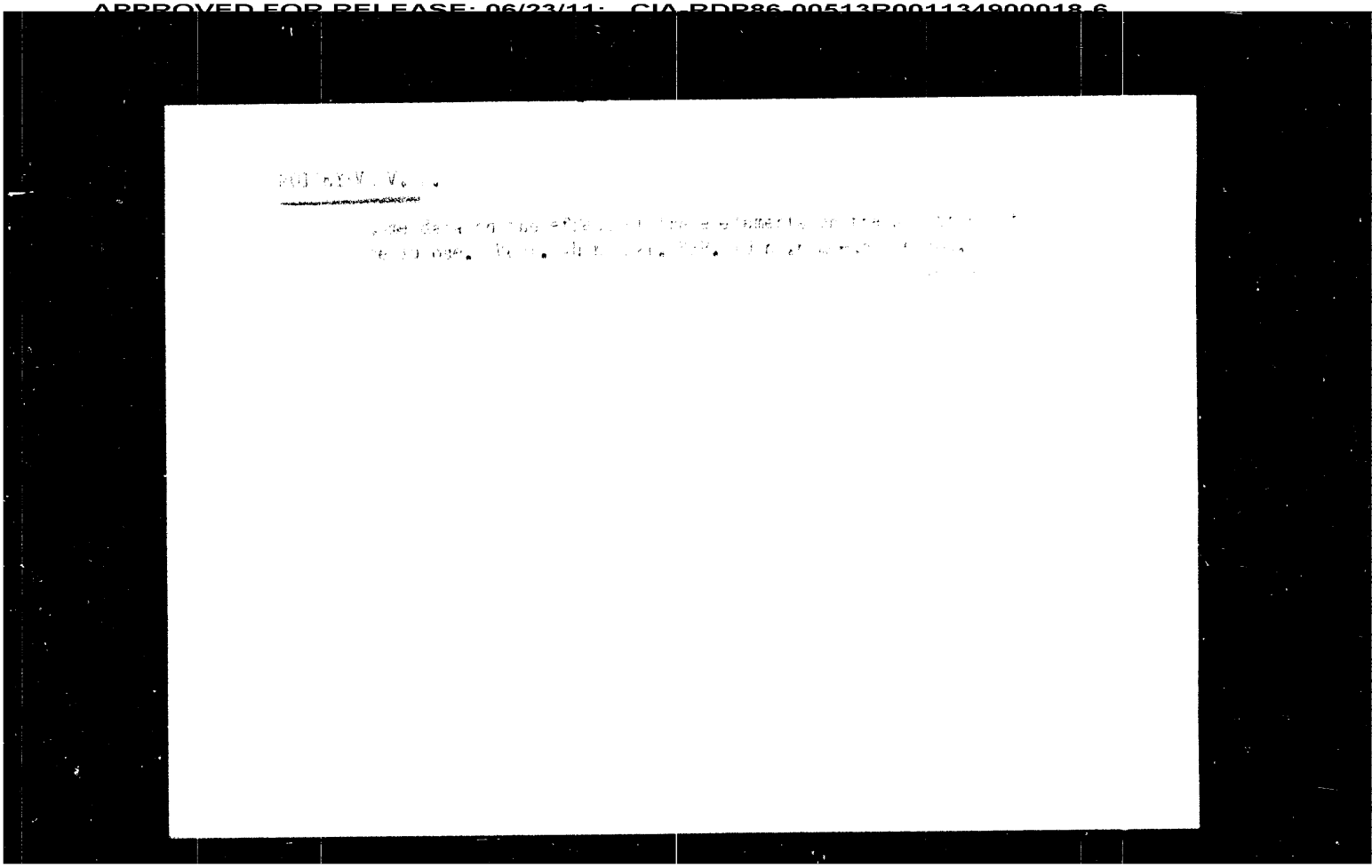
MOISEYEV, V.A.

Decomposition of cellulose in the digestive tract of sheep as related to the adding of sugar beets and urea to their food. Izv. AN Kazakh. SSR. Ser. biol. nauk [illegible] no.3:88-91 My-Je '[illegible]. (MIRA [illegible])

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001134900018-6

MOISEYEV, V.A.

Microelements as stimulants of the vitality of rumen microflora.
Izv. AN Kazakh. SSR. Ser. biol. nauk 2 no.1:89-92 Ja-F '64.
(MIRA 17:6)



MOISEYEV, V.A.

Some data on the [illegible] of feed carbohydrates in the [illegible] tract of sheep. Trudy [illegible] AN Kazakh. [illegible]

Effect of feeds on the splitting of [illegible] in the [illegible] of sheep. Ibid. [illegible]

TOMASHEVSKIY, L.P., inzh.; MURASHEV, V.I., inzh.; MOISEYEV, V.A., inzh.

Fireproof insulation of mined areas by means of double cofferdams.
Bezop.truda v prom. 6 no.12:6-8 D '62. (MIRA 15:12)
(Coal mines and mining--Fires and fire prevention)

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ZAKHAROV, A.B.; MOISEYEV, V.A.

Fire hazards of the shield mining method. Ugol' 36 no.3:11-14 Mr '61. (MIRA 14:5)
(Coal mines and mining--Fires and fire protection)

MOISEYEV, V.A., mashinist

Servicing of six boilers by one attendant. Energetik 10 no.11:14-15 N '62. (MIRA 15:12)

(Boilers)

DISEYEV, V.A.

Studying the decomposition of cellulose in the sheep rumen.
Vest. AN Kazakh.SSR 18 no.1:76-80 Ja '62. (MIRA 15:2)
(Cellulose) (Digestion)
(Rumen)

ZAKHAROV, A.B., inzh.; MOISEYEV, V.A.

Fire hazard in the shield mining system in relation to the area of its use. Nauch. soob. VostNII no.1:68-73 '61.
(MIRA 18:5)

ACC NR: AP6034629

used. Technical data: crystal-controlled frequencies, 125, 126, 128, 130 Mc; transmitter power, 300 mw; transmitter frequency band, 500—3000 cps; receiver sensitivity, 10 μv; working temperature, -40+50C; weight, 980 g (A), 3300 g (B); range, 80—90 km; maximum continuous run, 25 hrs. Some information is given about a "Zaliv" radio receiver which is intended for no-search, no-tune reception of commands issued from the ground to parachutists. Technical data of the receiver: operating frequency, 125 Mc; sensitivity, 20 μv; consumption, 400 mw; weight, 800 g; supply voltage, 16.6 v; working temperature, -40+50C; maximum continuous run, 4.5 hrs. Soviet editor's note: "As the "Mukha" station and the "Zaliv" receiver operate at frequencies not allocated to amateurs and are not intended to be copied by amateurs, their complete data is not reported." Orig. art. has: 3 figures and 2 tables.

SUB CODE: 17, 09 / SUBM DATE: none

Card 2/2

ACC NR: AP6034629 (A) SOURCE CODE: UR/0107/66/000/008/0033/0035

AUTHOR: Yastrebov, I. (Engineer); Moiseyev, V. (Engineer)

ORG: none

TITLE: "Mukha" (fly) radio station. "Zaliv" (bay) radio receiver

SOURCE: Radio, no. 8, 1966, 33-35

TOPIC TAGS: radio communication, radio transmitter, radio receiver, mobile radio / Mukha radio, Zaliv radio receiver

ABSTRACT: The development is reported of a new mobile, simplex, AM, storage-battery (24 v) supplied radio station intended for glider-to-glider and glider-to-ground communication. Two versions are manufactured: "Mukha-A" and "Mukha-B"; the former has four and the latter one transmitter-receiver. A principal connection diagram is shown; both electron tubes and transistors are

Card 1/2

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IVANOV, V.; MOISEYEV, V., inzh.

Reliability is the slogan. Prof.-tekh.obr. 22 no.5:26-27 My '65.
(MIRA 18:5)

1. Nachal'nik otdela podgotovki kadrov Moskovskogo elektrolampovogo zavoda (for Ivanov). 2. Otdel podgotovki kadrov Moskovskogo elektrolampovogo zavoda (for Moiseyev).

MOISEYEV, V., sud'ya respublikanskoy kategorii (Kiyev)

Pilotage "handwriting" of Kondratenko. Kryl. rod. 14 no.2:
27 F '65. (MIRA 18:3)

ANDRIANOV, D.P., doktor ekon. nauk, prof.; GENDEL'MAN, M.Z., kand. tekhn. nauk, dots.; GLICHEV, A.V., kand. ekon. nauk, dots.; DIDENKO, S.I., kand. ekon. nauk, dots.; ZHURAVLEV, A.N., kand. tekhn.nauk, prof.; ZAKHAROV, K.D., kand. tekhn.nauk,, dots.; MOISEYEV, S.V., kand. tekhn. nauk, dots.; OL'SHEVETS, L.M., kand. tekhn. nauk, dots.; ORLOV, N.A., prof.; POPOV, P.G., ispolnyayushchiy obyazannosti dots.; SARKISYAN, S.A., kand. ekon. nauk, dots.; STARIK, D.E., kand. tekhn.nauk, ispolnyayushchiy obyazannosti dots.; TER-MARKARYAN, A.N., kand. tekhn. nauk, prof.; TIKHOMIROV, V.I., kand. tekhn.nauk, prof.; CHESNOKOV, V.V., kand. ekon. nauk, dots.; SHERMAN, Ye.I., kand. ekon. nauk, dots.; EL'BERT, L.M., kand. ekon. nauk, dots.; LAPSHIN, A.A., dots., retsenzent; NOVATSKIY, V.F., kand. ekon. nauk, red.; TUBYANSKAYA, F.G., red. izd-va; KARPOV, I.I., tekhn. red.

[Organization, planning and economics of airplane production] Organizatsiia, planirovanie i ekonomika aviatsionnogo proizvodstva. [By] D.P.Andrianov i dr. Moskva, Oborongiz, 1963. 694 p. (MIRA 16:10)

(Airplane industry--Management)

ENCLOSURE: 02

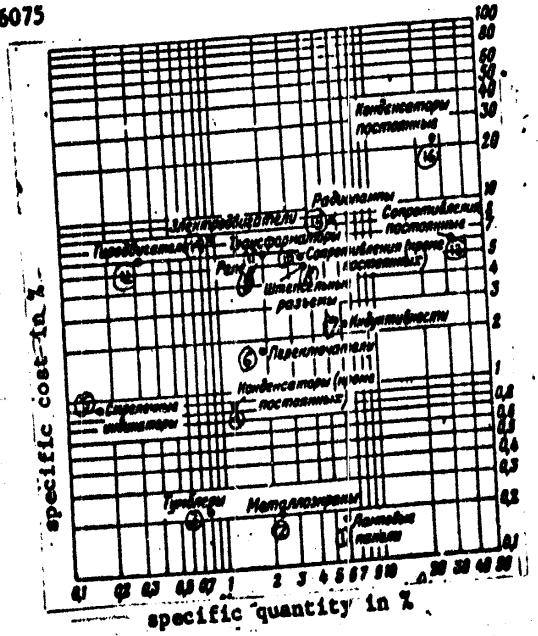
Fig. 1. Specific cost vs. specific quantity of certain components in percent (related to total cost and total quantity, respectively, of all components considered.

1. lighting panels; 2. metallic shields; 3. tumblers; 4. variable capacitors; 5. dial indicators; 6. switches; 7. inductors; 8. plug connectors; 9. relays; 10. variable resistors; 11. transformers; 12. gyro-motors; 13. fixed resistors; 14. electric motors; 15. electron tubes; 16. fixed condensers.

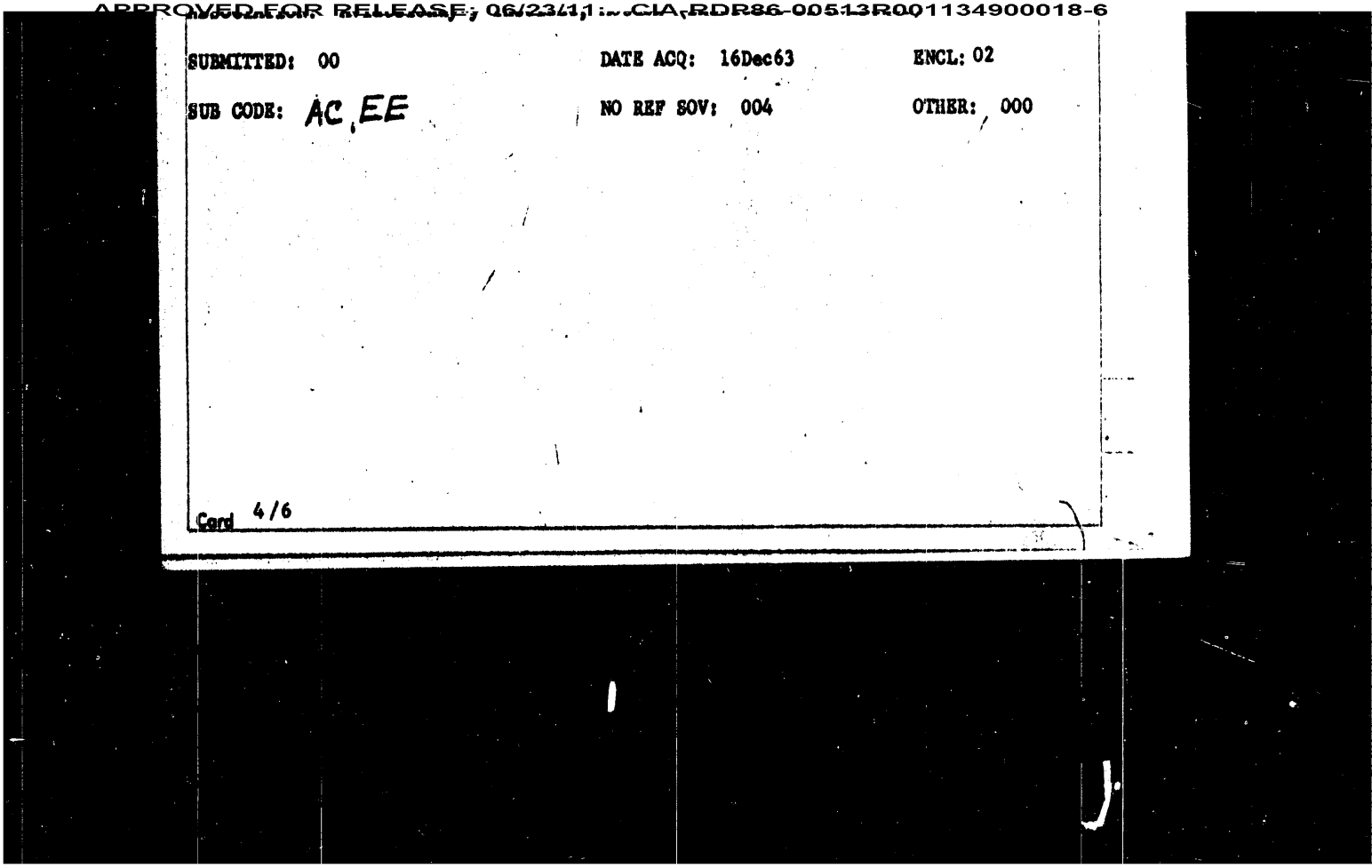
ard 6/6

ENCLOSURE: 01

ACCESSION NR: AT4006075



Card 5/6



SUBMITTED: 00 DATE ACQ: 16Dec63 ENCL: 02

SUB CODE: AC, EE NO REF SOV: 004 OTHER: 000

Card 4/6

ACCESSION NR: AT4006075

applied. Planned production quantities and characteristic values of quantity and cost have been also indicated in the table for each of the considered details. However, the table method does not permit one to determine exactly to which of the components preference should be given with regard to consideration for specialized production. The difficulty is to determine to which of the characteristic values more importance should be attributed. For example, lighting panels show a relative quantity 5.91%, and relative cost 0.17%; gyro-motors: 0.3 and 6.4%, respectively. The table method can be complemented by a graphical method as shown in Fig. 1 of the Enclosure. In this graph the relative quantity of a component is plotted against the relative cost of this component. It can be seen on this graph that all standardized electro-radio components, such as radio tubes, fixed condensers, and fixed resistors produced by methods of specialized production are located above the basic configuration of points. Investigation of the graph showed that other components could be reasonably selected for production specialization in the following sequence: 1. small electric motors; 2. transformers; 3. gyro-motors; 4. variable resistors; 5. relays; 6. inductors; 7. switches; 8. dial instruments; 9. tumblers; 10. metal screens; 11. lighting panels. A final selection of details for specialized production is influenced by the selected forms of specialization, quantity of production, and assumed limits of cooperation. Orig. art. has: 5 tables and 6 figures.

Card 3/6

ACCESSION NR: AT4006075

Standardization of such general purpose parts requires an analysis of the designs in which the parts are to be used. Because of the size and complexity of such a task, only basic instruments and radio equipment have been considered by the author and covered by classification schemes, established depending on the purpose of the instrument or equipment. The classification scheme selected for aircraft instruments contained three basic equipment groups: 1. flight control and navigational; 2. aircraft engine control; 3. separate systems and auxiliary control. A number of the above instruments contain none or few electrical or radio components, and therefore have not been further considered. Some other instruments containing radio-electronic devices have been considered as radio equipment, and not as air craft instruments. The classification scheme used for radio equipment has been subdivided into the following three basic groups: 1. aircraft radio equipment; 2. surface radio equipment; 3. general purpose radio products. Typical representatives have been selected for each type of instrument or equipment. General purpose nomenclature of electrical and radio components used in aircraft instruments and radio equipment has been established as follows: 1. capacitors; 2. resistors; 3. coil devices; 4. electric motors; 5. electro-vacuum devices; 6. products containing magnet; 7. mounting panels and connectors; 8. switches and commutators; 9. miscellaneous. A summary table has been given listing electrical and radio components and aircraft instruments and radio equipment in which the components are

Card 2/6

ACCESSION NR: AT4006075 S/2535/63/000/001/0048/0066

AUTHOR: Moiseyev, S. V. (Candidate of technical sciences, docent)

TITLE: Standardization of general purpose parts used in aircraft instruments, and radio equipment for specialization of their production

SOURCE: Moscow. Aviatsionny*y institut. Trudy*, no. 1, 1963. Puti dal'neyshego sovershenstvovaniya organizatsii i planirovaniya aviatsionnogo proizvodstva, 48-66

TOPIC TAGS: standardization, radio part standardization, aircraft instrumentation, instrument standardization, radio part, aircraft radio

ABSTRACT: While the effectiveness of production specialization is self-evident, cases of violation of specialization principles can frequently be encountered in industrial practice. Such violations reduce the effectiveness of separate measures adopted for production specialization. Due to the rate of present development of the need for aircraft instruments and radio equipment, production specialization is also gaining importance in this field. The rather broad questions connected with production specialization compelled the author to limit himself, and to concentrate his attention only on elaboration of a method to determine the objects which should be selected for production specialization: in particular, general purpose radio and electrical equipment, used in aircraft instruments and radio equipment.

Card 1/6

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Techn. Sciences; Ch. XV, XVI, XVII, XXII by Docent L. M. Ol'shevets, Cand. of Techn. Sciences; Ch. XVIII and XXI by Docent S. I. Didenko, Cand. of Econ. Sciences; Ch. XX and XXIV by Docent L. M. El'bert, Cand. of Econ. Sciences; Ch. XXIII by Docent V. V. Chesnokov, Cand. of Econ. Sciences. L. M. Ol'shevets and N. A. Orlov supervised the group of authors and completed the scientific editing. Each part of the book is accompanied by references, all Soviet, and in addition there are 9 Soviet references relating to the whole book.

TABLE OF CONTENTS:

COVERAGE: The book presents a comprehensive review of problems connected with economics of the aircraft industry and with the organization and planning of aircraft production. Concrete problems of organization of work at aircraft enterprises are analyzed as they apply to various types of aircraft plants, e.g., aircraft construction plants, engine manufacturing plants, instrument-making plants. Specific features of the organization and planning of production in industrial and experimental plants are outlined. The Introduction and Ch. I, II, and XI were written by Professor N. A. Orlov; Ch. III by Docent S. V. Moiseyev, Cand. of Techn. Sciences; Ch. IV and XIX by Docent S. A. Sarkisyan, Cand. of Econ. Sciences; Ch. V and X by Docent D. E. Starik, Cand. of Techn. Sciences; Ch. VI by Docent P. G. Popov; Ch. VII by Docents Ye. I. Sherman, Cand. of Econ. Sciences, and K. D. Zakharov, Cand. of Techn. Sciences; Ch. VIII by Docent M. Z. Gendel'man, Cand. of Techn. Sciences, Docent A. V. Glichev, Cand. of Economic Sciences, and Professor A. N. Ter-Markaryan, Cand. of Techn. Sciences; Ch. IX by Professor A. N. Zhuravlev, Cand. of Tech. Sciences; Ch. XII and XIII by Professor D. P. Andrianov, Doctor of Econ. Sciences; Ch. XIV by Professor V. I. Tikhomirov, Cand. of

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Andrianov, D. P., M. Z. Gendel'man, A. V. Glichev, S. I. Didenko, A. N. Zhuravlev, K. D. Zakharov, S. V. Moiseyev, L. M. Ol'shevets, N. A. Orlov, P. G. Popov, S. A. Sarkisyan, D. E. Starik, A. N. Ter-Markaryan, V. I. Tikhomirov, V. V. Chesnokov, Ye. I. Sherman, and L. M. El'bert.

Organizatsiya, planirovaniye i ekonomika aviatsionnogo proizvodstva (Organization, Planning, and Economics of the Aircraft Industry) Moscow, Oborongiz, 1963. 694 p. Errata slip inserted. 5000 copies printed.

Ed. (Title page): L. M. Ol'shevets, Candidate of Technical Sciences, Docent and N. A. Orlov, Professor; Reviewer: A. A. Lapshin, Docent; Ed.: V. F. Novatskiy, Candidate of Economical Sciences; Ed. of Publishing House: F. G. Tubyanskaya; Tech. Ed.: I. I. Karpov; Managing Ed.: L. A. Gil'berg.

PURPOSE: This textbook is intended for students of aircraft engineering schools of higher education. It may also be useful to engineering personnel of aircraft industry.

Car[redacted]

MOYSEYEV, S.V.

AID P - 2488

Subject : USSR/Medicine

Card 1/1 Pub. 37 - 17/19

Author : Moyseev, S. V.

Title : Sanitary Protection of Reservoirs against Pollution from Industrial Waste Waters (maximum permissible concentration of harmful substances in reservoirs). Edited by Prof. G. A. Miterev and Prof. S. N. Cherkinskiy, Moscow, Medqir, 1954. 227 p. (Book Review)

Periodical : Gig. i san., 7, 59-61, Jl 1955

Abstract : A very favorable review of the above book.

Institution: None

Submitted : No date

1. MOISEYEV, S. V.

2. USSR (600)

4. Water Supply

7. Experimental study on permissible concentration of sewage in the tank of a hydrolytic plant. Gig. i san. 17 no. 9, 1952.

9. Monthly List of Russian Accessions, Library of Congress, February 1953, Unclassified.

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CA

Moiseyev S.V

14

Experimental studies on removal of fluorine from water S. V. Moiseev (Leningrad Sanit. Hyg. Research Inst.). *Gigiena i Sanit.* 1951, No. 1, 49-51.—Removal of F from drinking water is satisfactory if the dosage of the coagulant is carefully selected and if the pH range is held closely (8.4 for river and artesian water). Below 15° the dosage of Al coagulant is 40 mg./l., or 50 mg./l. at higher temp. The removal is effective if F concn. is below 5 mg./l. The treated water contains 0.5 mg./l. F or less. The previously suggested increase of dosage of coagulant is not effective in removing large concns. of F. G. M. Kosolapoff

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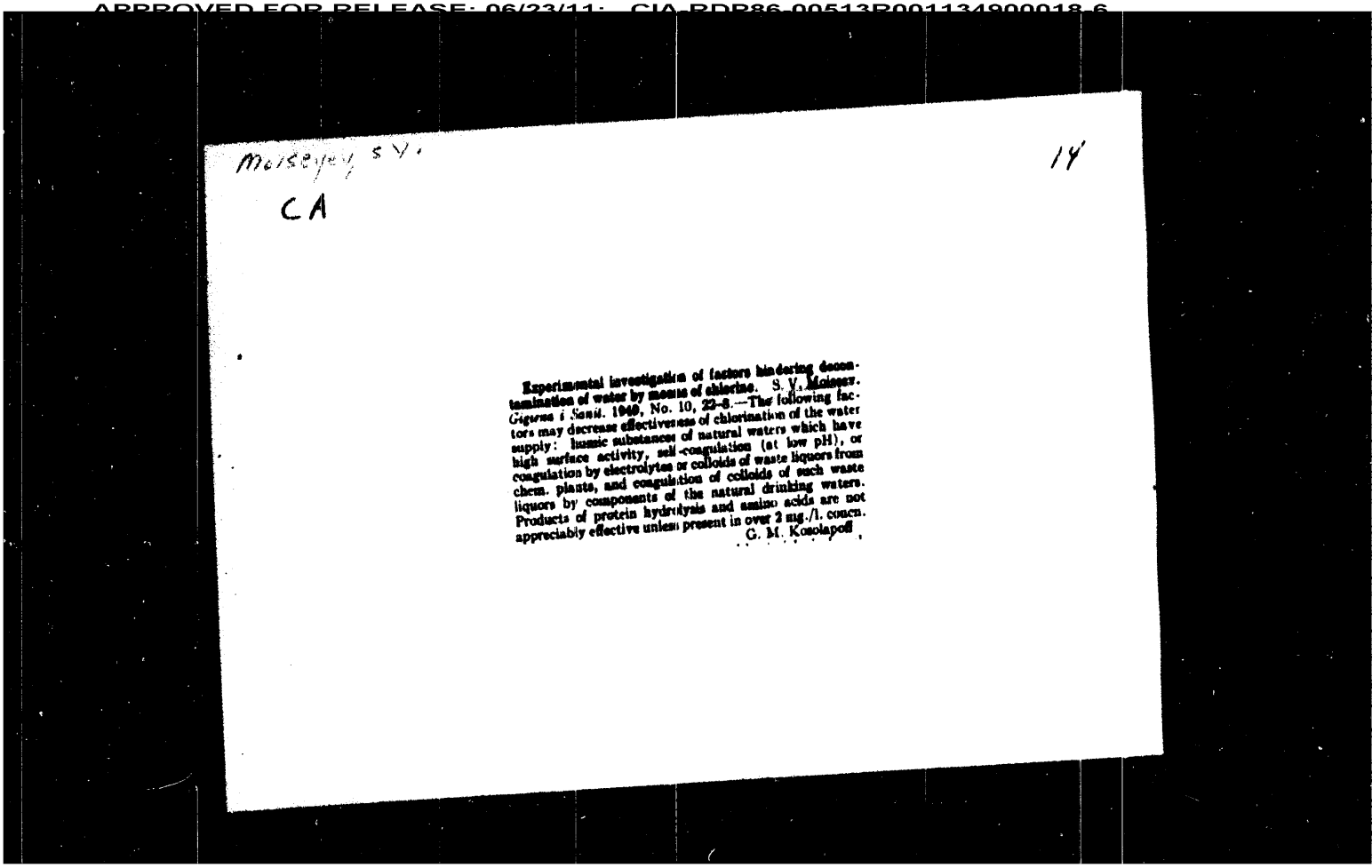


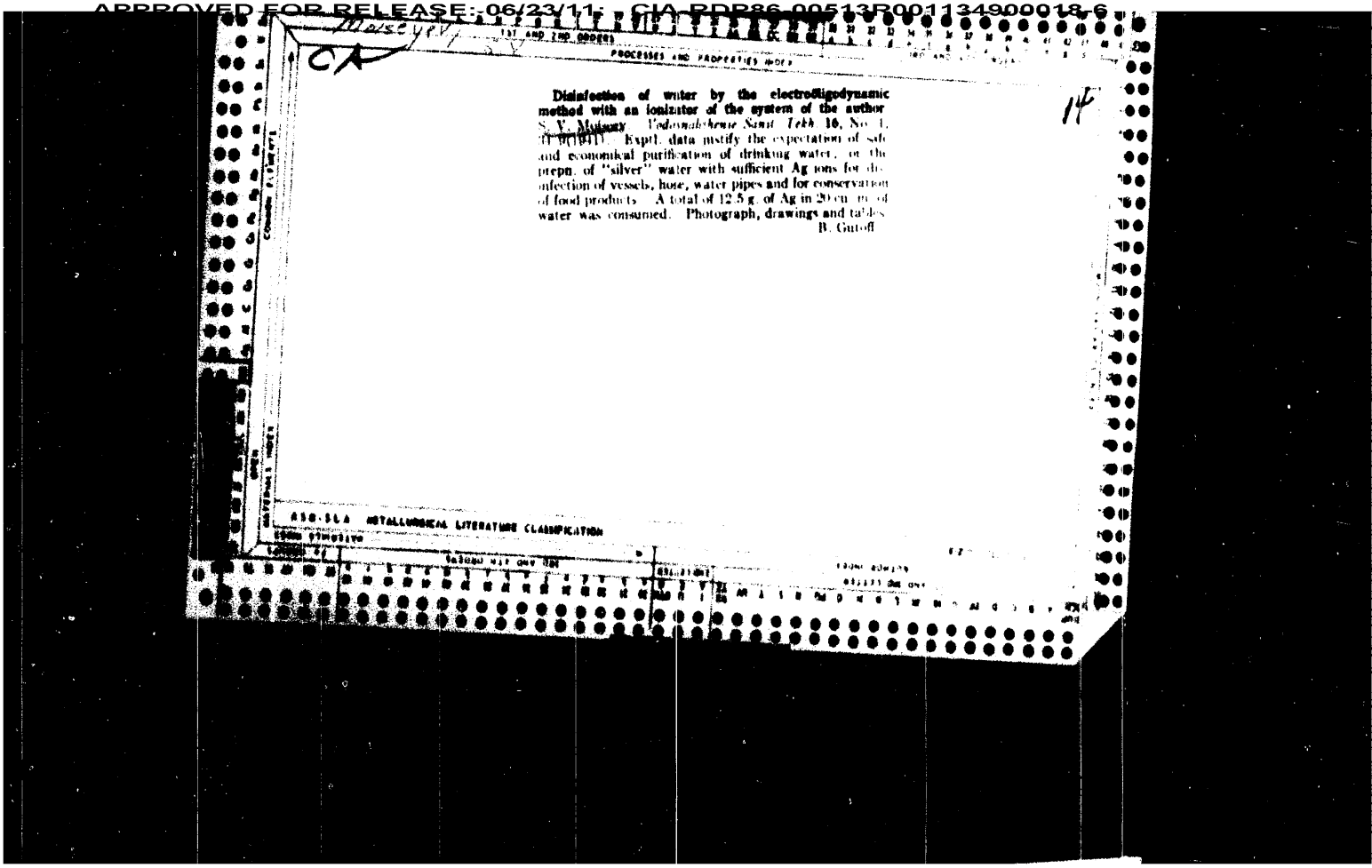
Moiseyev, S.V.

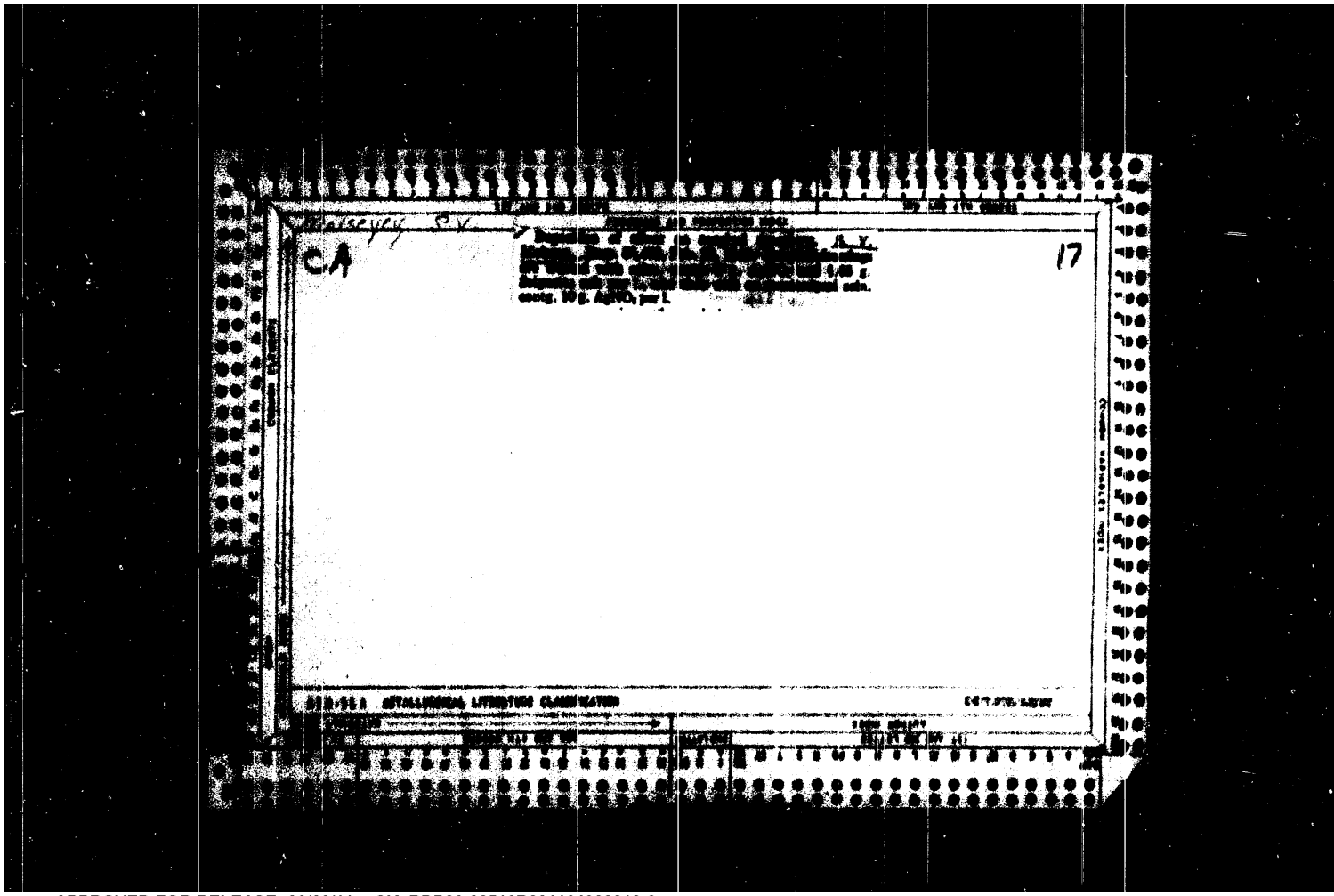
CA

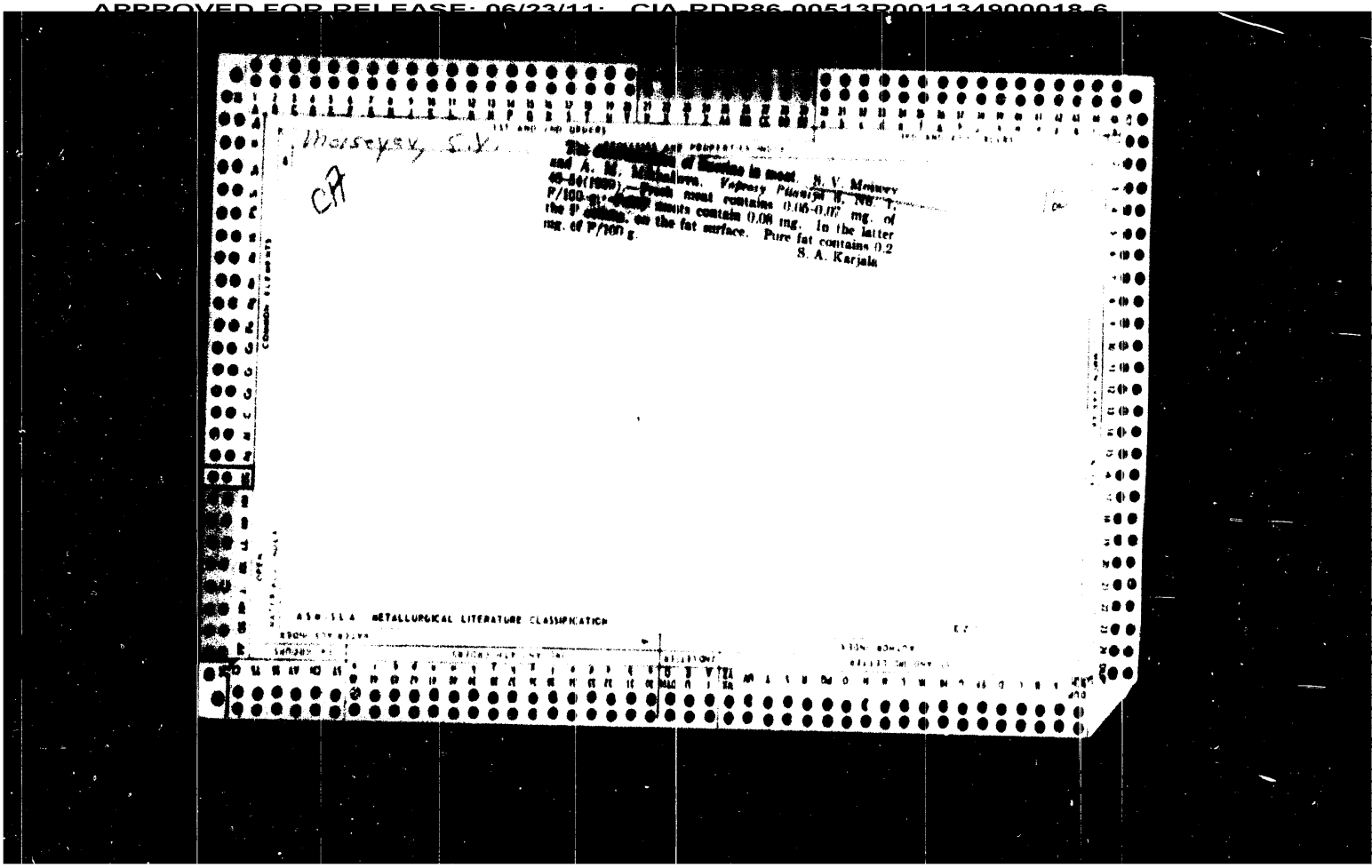
14

Experimental investigation of factors hindering decontamination of water by means of chlorine. S. V. Moiseev. *Gigiena i Sanit.* 1940, No. 10, 23-8.—The following factors may decrease effectiveness of chlorination of the water supply: humic substances of natural waters which have high surface activity, self-coagulation (at low pH), or coagulation by electrolytes or colloids of waste liquors from chem. plants, and coagulation of colloids of such waste liquors by components of the natural drinking waters. Products of protein hydrolysis and amino acids are not appreciably effective unless present in over 2 mg./l. concn.

G. M. Konolapoff







Moiseyev, S. V.

PROCESSES AND PROPERTIES INDEX

Experimental laboratory investigations of double chlorination of the Neva River water. S. V. Moiseev. *Vodosnabzhenie Sanit. Tekh.* **1930**, No. 2, 61-8; *Khim. Referat. Zhur.* **2**, No. 5, 95 (1930). Double chlorination lowers the cost of the technol. process of water purification. Addn. to water of not less than 0.7 mg./l. of Cl 2 min. after coagulation and before settling, and of not less than 0.1 mg./l. in the final chlorination was effective. The water should contain 0.2-0.3 mg./l. of residual Cl with a total Cl expenditure in the double chlorination of 1.5-1.6 mg./l.

W. R. Henn

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

Moiseyev, S.V.

Ca

12

The use of silver preparations for combating the molding of meats in cold storage. Experimental investigation S. V. Moiseev and L. P. Ivanova. *Trudy II Leningrad Med. Inst.* **8**, 151-64, *Chem. Zentr.* **1938**, II, 3623-4. The possibility of the use of "Ag water" of varying concn. (prepd. by allowing the water to stand in contact with silvered sand), of solns. of $KMnO_4$ and of solns. of $AgNO_3$ to prevent molding of meats in cold storage was investigated. The most satisfactory results were obtained when the meat was washed before freezing with Ag water contg. 3×10^{-8} g. Ag per cc. The prepn. is harmless to the consumer. M. G. Moore

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

PROCESSES AND PROPERTIES INDEX

Experimental investigations for the preparation of water with a definite concentration of silver ions by the electro-oligodynamic method. S. V. Moiseev. *Voprosy Pitaniya* 1938, No. 4-5, 109-97; *Khim. Referat. Zhur.* 2, No. 4, 100 (1939); cf. *C. A.* 33, 8804. — In his investigations of the patented electro-oligodynamic method for disinfecting large amts. of water M. proved that only d. c. should be used. When Ag water with a high concn. of Ag is obtained (which depends on the current d. and the area of the Ag anode), it should be dild. for disinfecting and preservative purposes. When 11 million intestinal bacteria per 1 cc. were added to Ag solns. they were destroyed immediately in concns. of from 8.50 × 10 to 3.16 × 10. At a concn. of Ag of from 8.20 × 10 to 1.55 × 10 /cc. they were either destroyed completely after 1-3 hrs. or they remained in amts. of 1-2 mg. of the Ag water.

W. R. Henn

ASA-SLA METALLURGICAL LITERATURE CLASSIFICATION

The technique of sterilization with silvered sand and factors which influence the process. Experimental investigation. S. V. Moiseev. *Trudy II Leningrad. Med. Inst.* **8**, 165 (1935); *Chem. Zentr.* **1938**, II, 3265; cf. *C. A.* **34**, 1125. For the purpose of sterilization the water flows through a layer of silvered sand (preliminary filter); this constitutes the preliminary purification of the water. For the final purification the water passes through a 2nd Ag filter. Oxidizable substances interfere with the disinfecting action (the O value must not exceed 20 mg./l.) since such materials adsorb the Ag ion. The NH_3 concn. must not exceed 5 mg./l. nor the NaCl concn. exceed 15 mg./l. The latter compds. interfere owing to the formation of slightly dissocd. Ag compds. [illegible] and HNO_3 do not interfere. It is not necessary in order to obtain satisfactory sterilization that the O_2 of the air come in contact with the silvered sand during filtration. The water must be in contact with the sand at least 2 hrs. Finally, the Ag concn. in the water must not exceed a definite value.

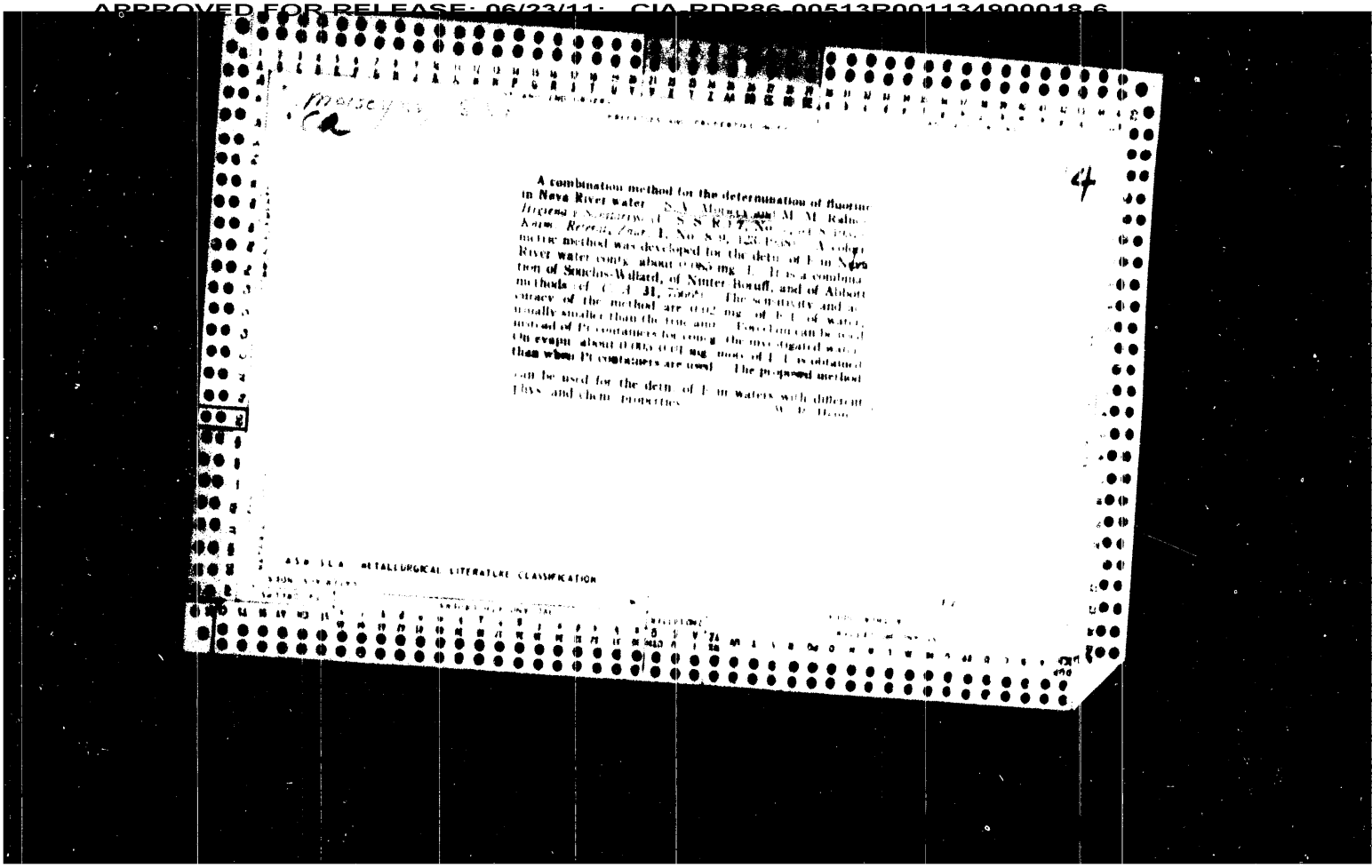
W. A. Moore

Moiseyev, S.V.

PROCESSES AND PROPERTIES INDEX

Method for the preparation of silver-plated sand no. 56. S. V. Moiseev. *Trudy Vtorogo Leningrad. Med. Inst.* 8, 11-47(1937); *Chem. Zentr.* 1938, II, 3424; cf. *C. A.* 29, 1910[9].—Sand having a diam. of 0.5-1 mm. is most suitable for silver plating. The sand is heated at 600° and while still hot poured into cold water, dried and finally shaken in a 0.5 mm. sieve to remove particles smaller than 0.5 mm. Soln. *A* is prepd. by dissolving 20 g. $AgNO_3$ in 150-200 cc. distd. water, adding 2.5% NH_3 until the ppt. formed is almost dissolved, filtering and dilg. to 2 l. Soln. *B* is prepd. by adding 10 g. $AgNO_3$ and 8.3 g. Seignette salt to 5 l. boiling water, boiling 1 min., and storing in the dark. The sand is plated by adding 500 cc. of soln. *A* and 500 cc. of soln. *B* to 500 g. of sand. After silvering, the sand is washed with distd. water to remove the Cl. The amt. of pptd. Ag should amount to 0.28-0.32%. The oligodynamic action of the prepn. is good. W. A. M.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



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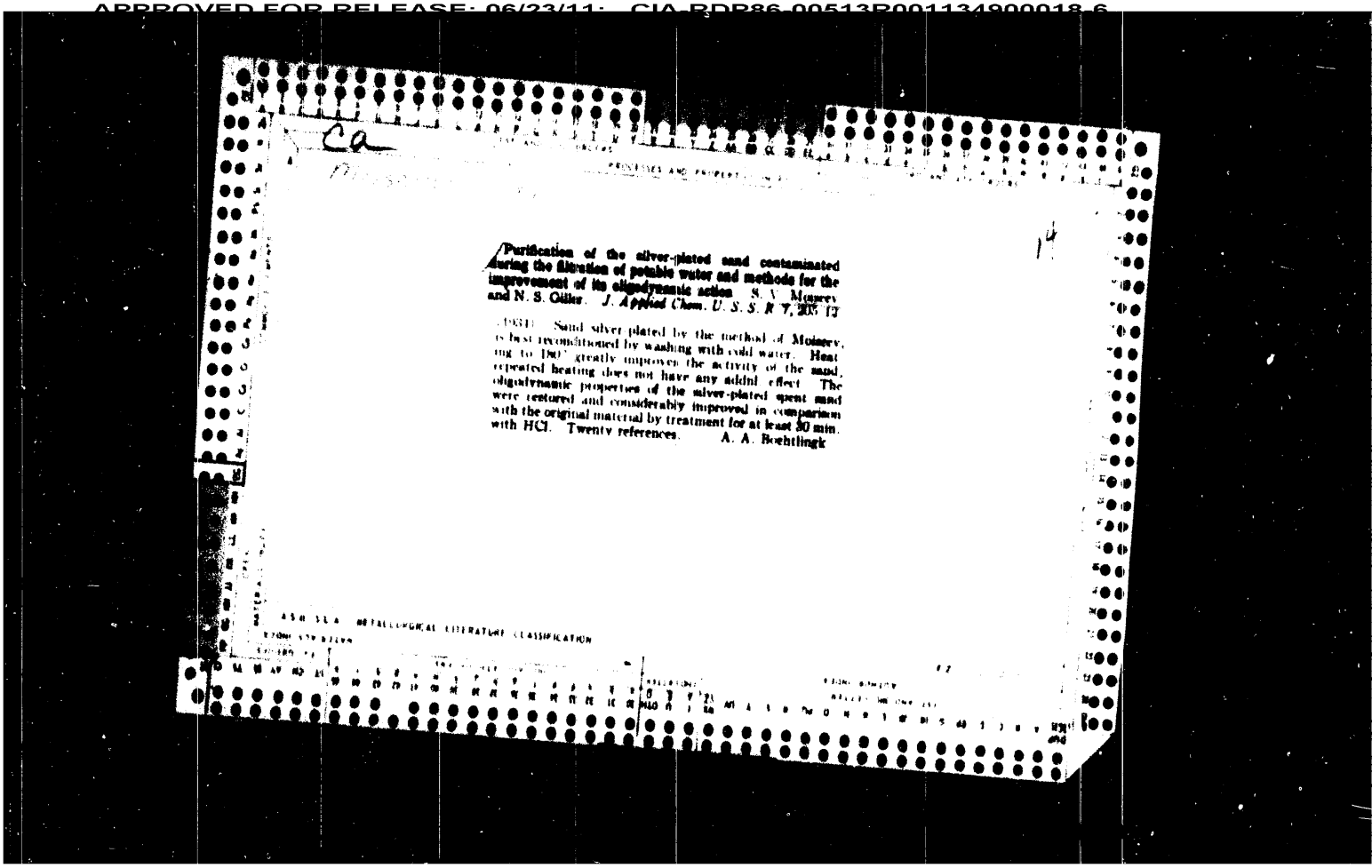
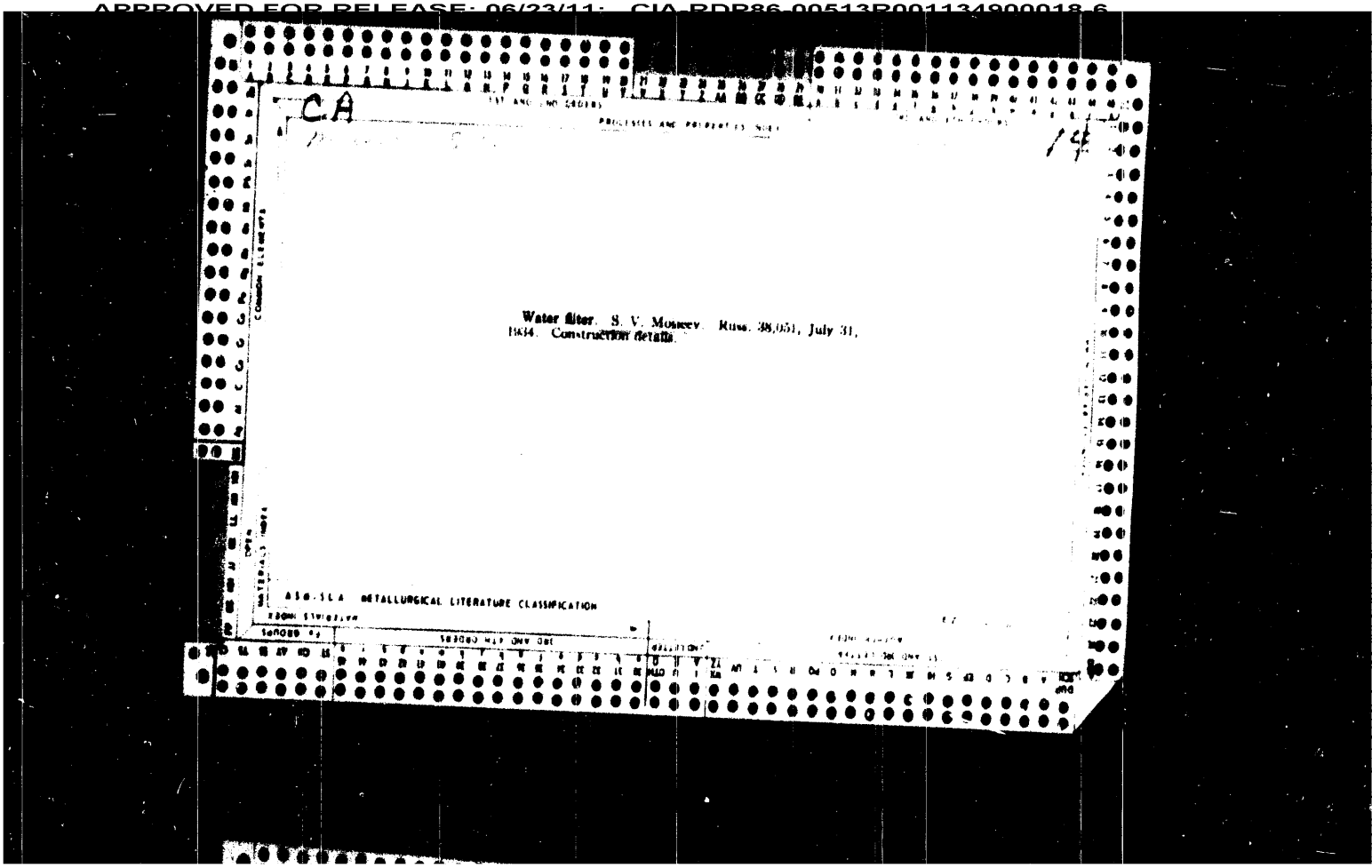


Ca

Purification of the silver-plated sand contaminated during the filtration of potable water and methods for the improvement of its oligodynamic action. S. V. Moiseev and N. S. Gilles. *J. Applied Chem. U. S. S. R.* **7**, 207-12 (1934). Sand silver plated by the method of Moiseev is best reconditioned by washing with cold water. Heating to 180° greatly improves the activity of the sand, repeated heating does not have any addnl effect. The oligodynamic properties of the silver-plated spent sand were restored and considerably improved in comparison with the original material by treatment for at least 30 min. with HCl. Twenty references. A. A. Boehtlingk

14



ACC NR: AP7001325 SOURCE CODE: UR/0057/66/036/012/2217/2219

AUTHOR: Zaslavskiy, G.M.; Moiseyev, S.S.

ORG: Novosibirsk State University (Novosibirskiy gosudarstvennyy universitet)

TITLE: On the stability of a plasma in the presence of fluctuating parameters

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 36, no. 12, 1966, 2217-2219

TOPIC TAGS: mathematic method, stochastic process, random magnetic field, plasma instability,

ABSTRACT: In this letter to the editor the authors suggest that the techniques of the theory of stochastic functions be employed to discuss the stability of plasmas in the presence of randomly fluctuating perturbing forces. As an example they discuss the stability against fluting perturbations of a plasma in a stellarator type magnetic field in the presence of random fluctuations of the magnetic field. The problem is reduced to the solution of a Schrodinger type eigenvalue problem for a stochastic potential. The solution is obtained under the assumption that the magnetic field fluctuations can be represented as white Gaussian noise (zero mean and delta function type correlation function). The logarithmic increment of the flute instability is increased by the random field fluctuations. Orig. art. has: 11 formulas.

SUB CODE: 20 SUBM DATE: 27Jul66 ORIG. REF: 005 OTH REF: 001

Card 1/1

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001134900018-6

force lines at a large angle through zero. In the classical diffusion approximation, provided the angle through which the field are turned in a distance of the order of the dimensions of the system is cr... to unity. The author thanks A. A. Galeyev, B. B. Kadomtsev, A. B. Mikhaylovskiy, and B. Z. Saydamov for a valuable discussion. Orig. art. has: 9 formulas.

SUB CODE: 20/ SUBM DATE: 21May66/ ORIG REF: 004/ OTH REF: 001

hs

Card 2/2

L 44705-66 EWT(1)/EWT(m)/T/EWP(t)/ETI IJP(c) AT/JD

ACC NR: AP6031331 SOURCE CODE: UR/0386/66/004/003/0081/0084

58
53
13

AUTHOR: Moiseyev, S. S.

ORG: Novosibirsk State University (Novosibirsiy gosudarstvennyy universitet)

TITLE: Effect of ion motion along the magnetic field on plasma stability

SOURCE: Zh. eksper. i teoret. fiz. Pis'ma v redaktsiyu. Prilozheniye, v. 4, no. 3, 1966, 81-84

TOPIC TAGS: plasma stability, plasma diffusion, plasma magnetic field

ABSTRACT: Since in earlier studies of instabilities due to drift oscillations of an inhomogeneous plasma principal attention was paid to the ion currents of the magnetic field and not to longitudinal ion motion, which becomes important in connection with the question of the effective use of installations with crossing field lines, the author considers in the hydrodynamic approximation a case in which the transverse ion currents are neglected, but the longitudinal ion motion is taken into account. To explain the main features of the phenomenon, a simple case is considered first, when the ions are kept cold and the initial electron temperature is constant. The analysis consists essentially of reconciling the equations for charge conservation, the equations of ion and electron motion along the field, and the equations of continuity and heat balance for the electrons. This yields a dispersion equation from which the nature of the possible instability is deduced. The analysis is then extended to an isothermal plasma, and it is shown that under certain conditions the instability in

Card 1/2

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001134900018-6

between ordinary and extraordinary waves. It can be shown that in rarefied plasma the anomaly transformation is possible if the Larmor frequency corresponding to the projection of the magnetic field in the direction the waves are propagated is on the order of the frequency of these waves. The question of wave transformation can be proven to be material to the problem of plasma stability. The author thanks R. Z. Sagdeyeva for the attention given the work, as well as for the valuable discussions. Orig. art. has: 6 formulas and 4 figures.

SUB CODE: 20/ SUBM DATE: 27 Jul 65 / ORIG REF: 008 / OTH REF: 002

Card 2/2

L 45442-66 EWT(1) IJP(c) AT

ACC NR: AP6021352 SOURCE CODE: UR/0207/66/000/003/0003/0007

AUTHOR: Moiseyev, S. S. (Novosibirsk)

ORG: none

TITLE: One possibility of anomaly transformation of waves in plasma

SOURCE: Zhurnal prikladnoy mekhaniki i tekhnicheskov fiziki, no. 3, 1966, 3-7

TOPIC TAGS: mathematic transformation, geometric optics, rarefied plasma, plasma stability, Larmor frequency, plasma wave

ABSTRACT: Normal oscillations are independent in the approximation of the geometric optics in a feebly heterogeneous medium. The approximation is upset near points where the wave vector k(x) either returns to zero, or where the wave vectors corresponding to various types of oscillations coincide. When the vicinities are small these points cannot be separated into individual, normal oscillations, as is the case, for example, when the existence of "points of intersection for the solution" result in the appearance of yet a new wave with other dispersion properties, in addition to the wave falling from infinity. Cases of the "birth" of new waves considered in the past have reduced to an exponentially small transformation factor, as well as to the absence of reflected waves. The article discusses the appearance of reflected waves for the il-

Card 1/2

L 29600-66
ACC NR: AP6013919

ion-ion viscosity have on the development of plasma instability in a magnetic field due to longitudinal current. We thank G. M. Zaslavskiy and R. Z. Sagdeyev for their useful discussions. Orig. art. has: 1 figure, 11 formulas.

SUB CODE: 20/ SUBM DATE: 10Nov65/ ORIG REF: 006/ OTH REF: 004

Card 2/2

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001134900018-6

L 29600-66 EWP(m)/EWT(1)/T-2 IJP(c)

ACC NR: AP6013919 SOURCE CODE: UR/0207/66/000/002/0025/0029

AUTHOR: Yerokhin, N. S. (Novosibirsk); Moiseyev, S. S. (Novosibirsk)

ORG: none

TITLE: Some characteristics of problems in magnetohydrodynamic stability theory reducible to a differential equation in which the highest derivative has an arbitrary parameter

SOURCE: Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, no. 2, 1966, 25-29

TOPIC TAGS: magnetohydrodynamics, Laplace equation, Larmor radius, differential equation

ABSTRACT: The authors study the asymptotic properties of solutions for a fourth order differential equation where the highest derivative has an arbitrary parameter. It is shown that similarity of asymptotic behavior is independent of the value of this parameter for values of the argument which give zero coefficients at the second derivative. The Laplace method is used in conjunction with the analytical properties of the solutions to study the problem for various values of the given parameter. It is shown that the solutions have convergent asymptotic properties to a certain degree for arbitrary values of this parameter. Specific applications of the proposed theory are considered with regard to the effect which a finite Larmor radius of the ions and

Card 1/2

L 00304-66 EWT(1)/EWP(m)/EPA(sp)-2/EPA(w)-2/T-2/E[illegible]A(m)-2 IJP(c)

ACCESSION NR: AP5018049 UR/0382/65/000/002/0023/0030
533.951 : 538.4

AUTHOR: Moiseyev, S. S.; Smilyanskiy, V. R.

TITLE: Problem of wave transformation in magnetohydrodynamics

SOURCE: Magnitnaya gidrodinamika, no. 2, 1965, 23-30

TOPIC TAGS: MHD shock wave, plasma wave propagation

ABSTRACT: Treating the plasma in a magnetohydrodynamic approximation, the problem of transformation of waves is investigated. First, the methods are required approximations for various wave transformation problems are briefly reviewed. The problem is formulated in the magnetohydrodynamic equations with appropriate boundary conditions. Various forms of solutions are employed and dispersion relations obtained. Two problems, with magnetic fields, one parallel and one perpendicular to the density variations, are discussed. It is shown that in the second case energy transfer can occur between modes. Results are compared with published methods. "We thank R. Z. Sagdeyev and V. L. Pokrovskiy for their helpful discussion." Orig. art. has: [illegible] formulas, 2 figures.

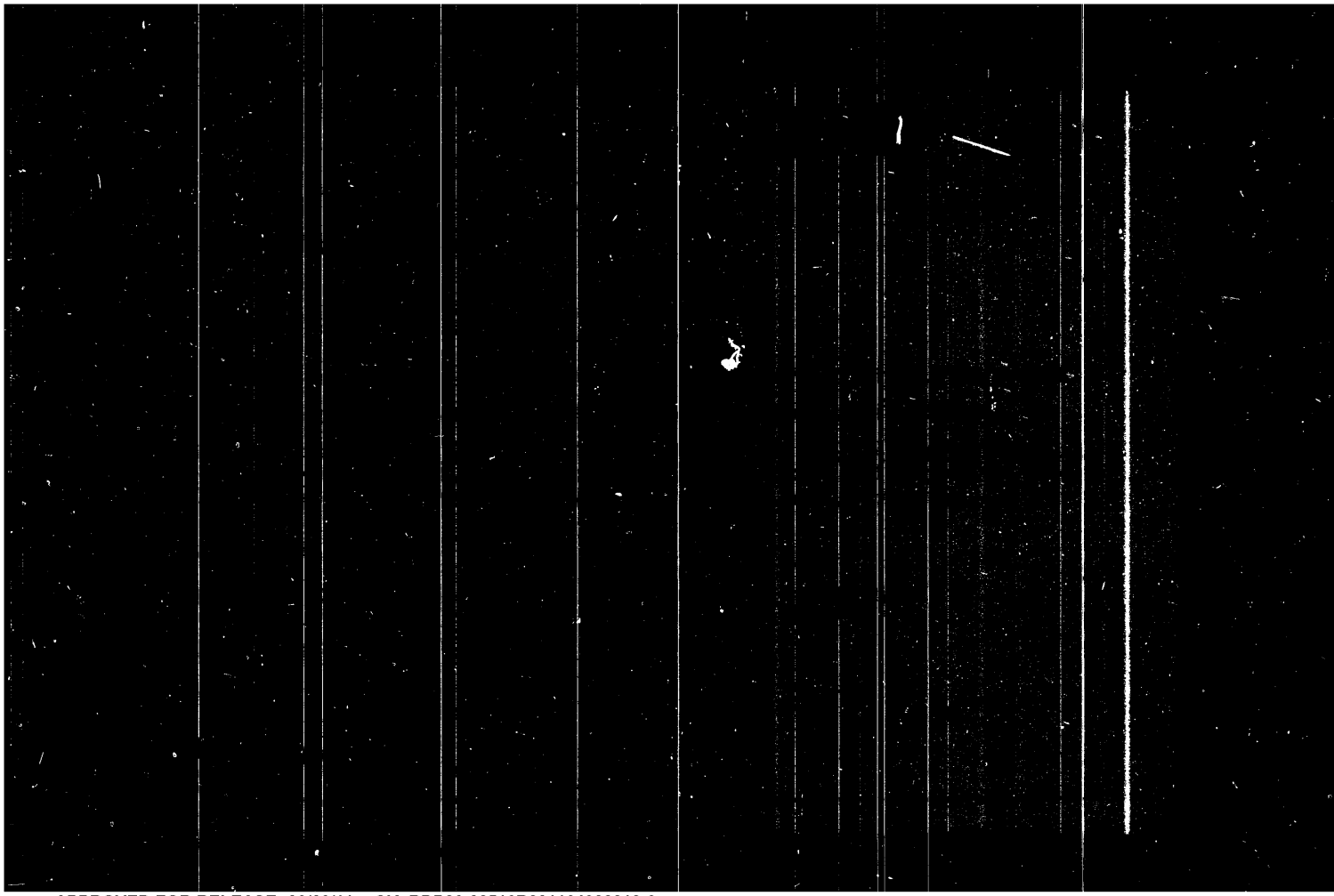
ASSOCIATION: none

SUBMITTED: [illegible] ENCL: 00 SUB CODE: ME

NO REF SOV: 006 OTHER: 004

Card 1/1

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001134900018-6



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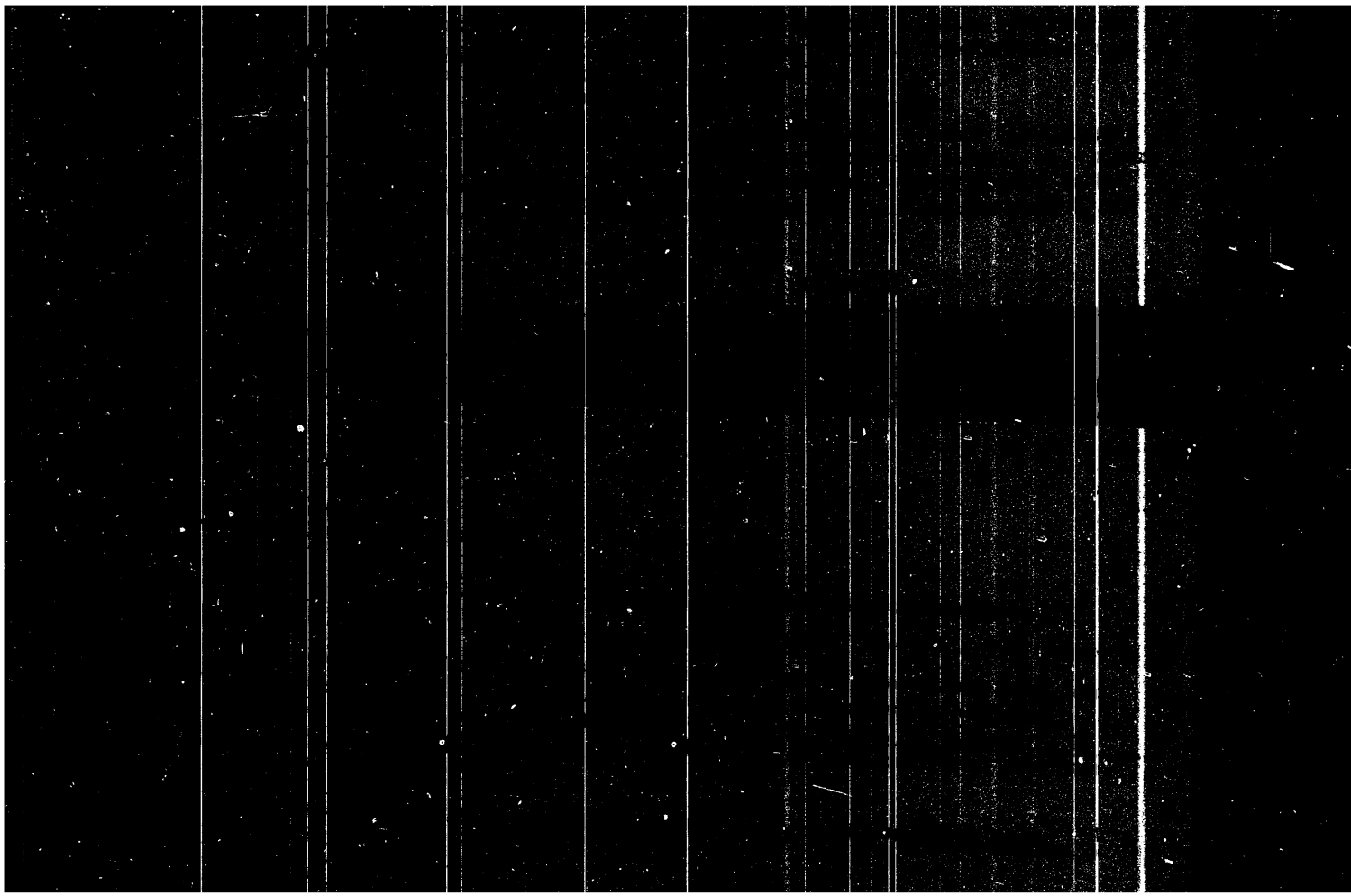

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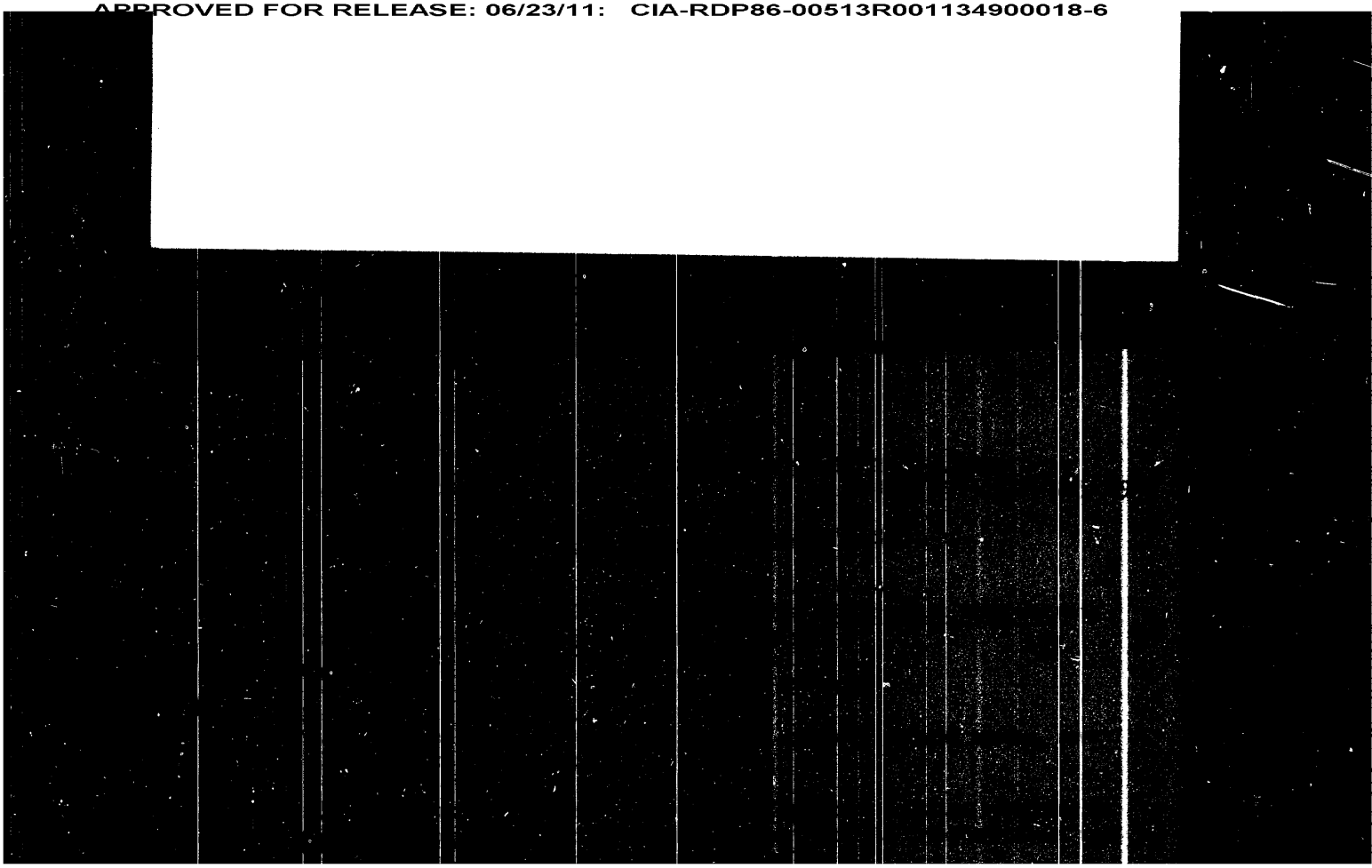


ACCESSION NR: AP4020566

non-uniform, and the transvers friction force is negligible; 3) the ion viscosity is not negligible. The conditions are derived under which these equations for the perturbing field admit localized solutions, and the roots of the dispersion equations are obtained under various further simplifying assumptions. Approximate anomalous diffusion constants are derived from the roots of the dispersion equations. It is found that as the electron temperature decreases, the critical magnetic field for anomalous diffusion due to longitudinal current increases more rapidly than the for diffusion due to other instabilities. This should explain the anomalous diffusion observed by R.W.Motley (Nucl.fusion,Suppl.p.1,199,1962) when passing a current through a cold plasma. "In conclusion, we thank R.Z.Sagdeyev for his constant interest in the work, and I.O.Foreskin for stimulating discussions." Orig.art.has: 75 formulas and 1 figure.

ASSOCIATION: Novosibirskiy gosudarstvenny*y universitet (Novosibirsk State Univ.)

SUBMITTED: 11Feb63 DATE ACQ: 31Mar64 ENCL: 00

SUB CODE: PH NR REF SOV: 005 OTHER: 002

Card 2/2

ACCESSION NR: AP4020566 S/0057/64/034/003/0410/0418

AUTHOR: Zaslavskiy, G.M.; Moiseyev, S.S.

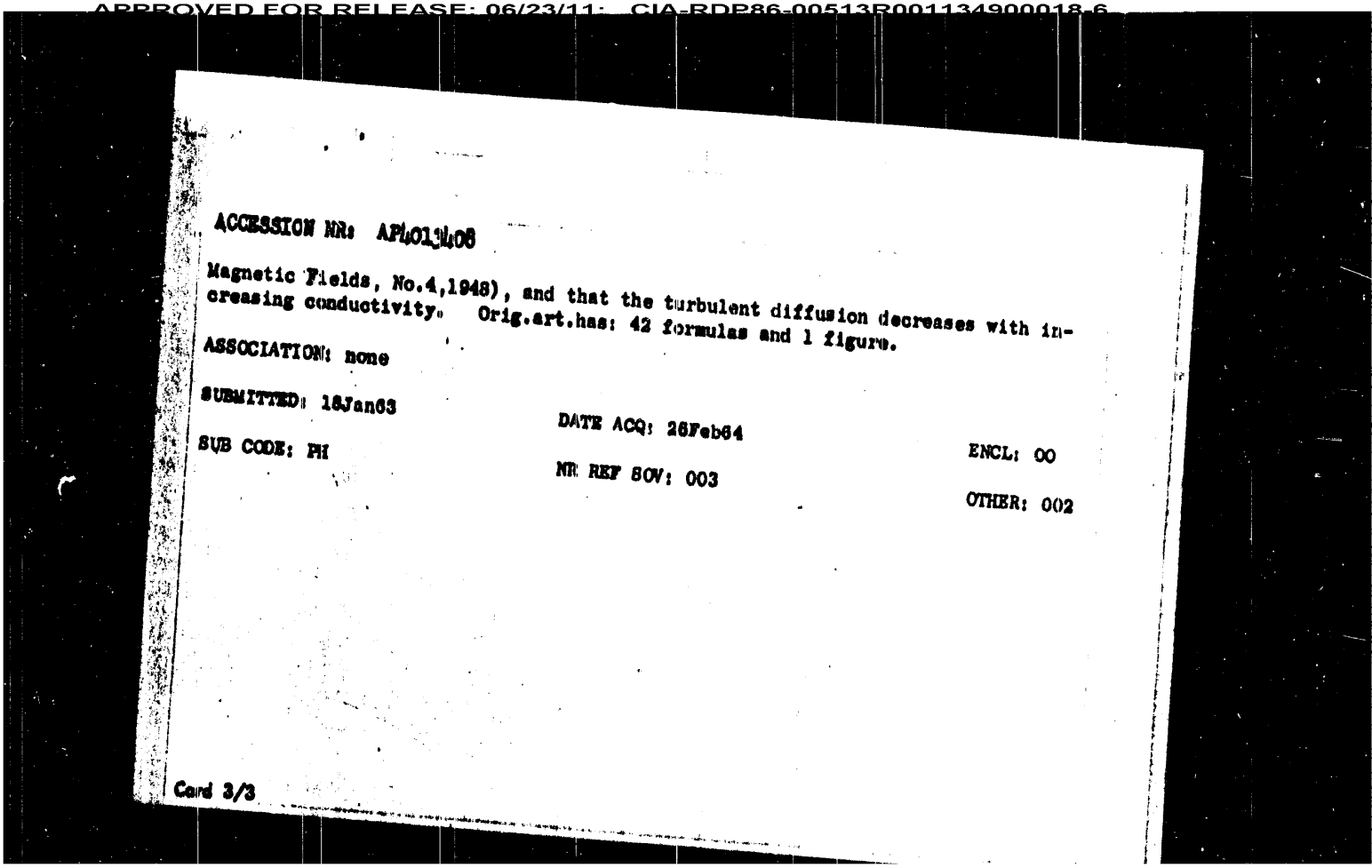
TITLE: On anomalous diffusion of a plasma in a magnetic field

SOURCE: Zhurnal tekhnicheskoy fiziki, v.34, no.3, 1964, 410-418

TOPIC TAGS: plasma, plasma stability, anomalous plasma diffusion, plasma viscosity instability, plasma heat conductivity instability, plasma resistivity instability, plasma longitudinal current instability

ABSTRACT: The effect of viscosity, heat conductivity, electrical conductivity, and longitudinal current on the stability of a plasma in a magnetic field is calculated in the two-fluid hydrodynamic approximation, and the anomalous diffusion coefficient is obtained in certain limiting cases. The two-fluid hydrodynamic equations employed are taken from work of S.I.Braginskiy (ZhETF 33,645,1957). Quasi-neutrality is assumed. Linearized equations for the perturbing field, and the corresponding diffusion equations, are derived for the following three cases: 1) there is no initial current, and the electron temperature is uniform and large compared with the ion temperature; 2) there is an initial current, the electron temperature may be

Card 1/2



ACCESSION NR: AP4013408

Magnetic Fields, No.4,1948), and that the turbulent diffusion decreases with increasing conductivity. Orig.art.has: 42 formulas and 1 figure.

ASSOCIATION: none

SUBMITTED: 18Jan63 DATE ACQ: 26Feb64 ENCL: 00

SUB CODE: PH NR REF SOV: 003 OTHER: 002

Card 3/3

ACCESSION NR: AP4013406

the dispersion equation reduces to that obtained by A.A.Galeyev, V.N.Orayevskiy and R.Z.Sagdeyev (Preprint, Novosibirsk,1962). The solution of the disperison equation is written for the case of constant temperature; it indicates instability for finite conductivity. When the electron temperature greatly exceeds the ion temperature and the conductivity is large, the instability is socillatory. For sufficiently low conductivity the instability is aperiodic. In order to determine whether localized disturbances can exist, a perturbation with a variable amplitude is introduced and the differential equation for the amplitude is derived. This equation is of the form of Schrödinger's equation with a complex potential. The equation is shown to admit localized solutions provided the conductivity is not too great. The coefficient of turbulent diffusion arising from the present instability is estimated. The diffusion coefficient is of the order of the turbulent velocity divided by the collision frequency. The turbulent velocity is obtained by equating the rate of velocity increase due to the instability, obtained from the solution of the dispersion equation, to the rate of dissipation into high frequency modes by the nonlinear hydrodynamic terms. The diffusion coefficient thus obtained is $cT/2\pi eH$. It is shown that this is of the same order as the diffusion coefficient assumed in Bohm's hypothesis (A.Cuthrie, P.K.Wakerling,The Characteristics of Electrical Discharges in

Card 2/3

ACCESSION NR: AP4013408 S/0057/64/034/002/0248/0253

AUTHOR: Moiseyev, S.S.; Sagdeyev, R.Z.

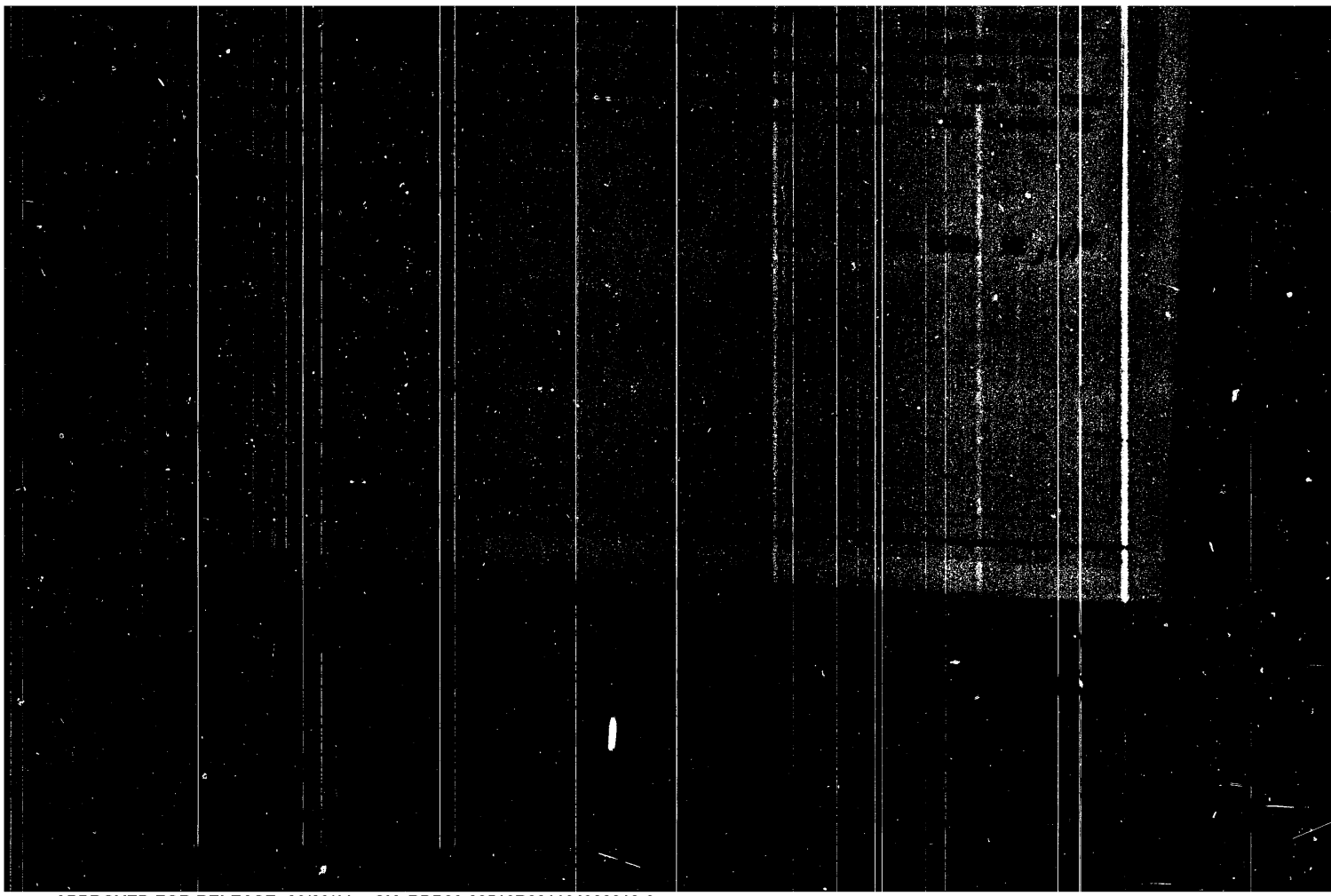
TITLE: Effect of finite conductivity on the stability of plasma in a magnetic field

SOURCE: Zhurnal tekhn.fiz.,v.34, no.2, 1964, 248-253

TOPIC TAGS: plasma, plasma stability, plasma conductivity, turbulent diffusion

ABSTRACT: It is shown that the finite conductivity of a plasma in a strong magnetic field can give rise to instability even in the absence of a longitudinal current. The calculations are based on the two fluid hydrodynamic model with quasi-neutrality assumed. The applied magnetic field is assumed to be uniform, although the plasma is not. The finite conductivity is introduced by an assumed constant collision rate of electrons with ions. The inertia of the electrons and the longitudinal motion of the ions are neglected. Heat transport by the electrons is taken into account. The linearized perturbation equations are written for a long wavelength disturbance with propagation velocity small compared with the Alfven velocity, and the corresponding dispersion equation is derived. For infinite conductivity

Card 1/3



APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001134900018-6

MOISEYEV, S.S.; FRIDMAN, A.M. (Novosibirsk)

"The influence of turbulence on the transport phenomena in an ionized gas in a strong magnetic field".

report presented at the 2nd All-Union Congress on Theoretical and Applied Mechanics, Moscow, 29 Jan - 5 Feb 64.

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001134900018-6

S/056/63/044/002/058/065
B163/B186

Bohm's diffusion coefficient

field strength is smaller than $L^{2/3}_{\parallel} c(m_i m_e \nu T)^{1/3} / r^{4/3} e$, where L is the tube length in the direction of the magnetic field, c the velocity of light, m_i and m_e the ion and electron masses, respectively, ν the electron-ion collision frequency, r the tube radius and e the electron charge.

ASSOCIATION: Novosibirskiy gosudarstvennyy universitet (Novosibirsk State University)

SUBMITTED: November 21, 1962 (initially)
December 20, 1962 (after revision)

Card 2/2

S/056/63/044/002/058/065
B163/B186

AUTHORS: Moiseyev, S. S., Sagdeyev, R. Z.

TITLE: Bohm's diffusion coefficient

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 44, no. 2, 1963, 763-765

TEXT: In a fully ionized plasma in which the pressure is small as compared with the energy density of the magnetic field, instabilities may arise owing to a density gradient perpendicular to the magnetic field. The turbulence resulting from such instabilities gives rise to an anomalous transverse diffusion coefficient which is proportional to the plasma temperature and inversely proportional to the magnetic-field strength, i.e. of the type experimentally found by Bohm in 1949. A linear theory of the drift waves, in which the friction between the electron and ion gas is taken into account, yields an ordinary second-order differential equation for the perturbation of the electric potential which is solved in WKB approximation. From this a diffusion coefficient of Bohm's type results. This type of diffusion occurs only if the magnetic

MOISEYEV, S.S.

Aperiodic instability of a relativistic plasma. Zhur. eksp. fiz. 33 no.9:1059-1065 S '63. (MIRA 16:11)

L 18366-63
ACCESSION NR: AP3003945

cription of a relativistic plasma leads to a closed system of one-fluid hydrodynamic equations that take account of the finite Larmor radius. As an example, stability conditions are derived for a uniform relativistic plasma with respect to waves propagating, respectively, parallel and perpendicularly to an external magnetic field. Orig. art. has: 31 formulas.

ASSOCIATION: Novosibirskiy gosudarstvenny"y universitet (Novosibirsk State Univ.)

SUBMITTED: 02July62 DATE ACQ: 07Aug63 ENCL: 00

SUB CODE: PH NO REF SOV: 006 OTHER: 002

Card 2/2

L 18366-63 EPR/EPA(b)/EWT(1)/EWG(k)/EDS/T-2/EEC(b)-2 AFFTC/ASD/ESD-3/
AFWL/IJP(C)/SSD Ps-4/Pd-4/Pz-4/Pi-4/Po-4 AT/WW
ACCESSION NR: AP3003945 S/0057/63/033/007/0782/0787

88
87

AUTHOR: Zaslavskiy, G.M.; Moiseyev, S.S.

TITLE: Viscious processes in relativistic magnetohydrodynamics

SOURCE: Zhurnal tekhnicheskoy fiziki, v.33, no.7, 1963, 782-787

TOPIC TAGS: relativistic magnetohydrodynamics, viscosity, plasma

ABSTRACT: The viscosity tensor of a relativistic plasma is calculated from the kinetic equation. The viscosity tensor is first expressed in terms of the second moments of the collision term in the relativistic kinetic equation by reference to work of H.Grad (Commun. on Pure and Appl.Mathem.,2, 331, 1949). From this and the kinetic equation, an expression is obtained for the viscosity tensor in terms of the energy momentum tensor of the plasma, the external electromagnetic field, and the divergence of a third rank tensor involving cubic terms in the velocities previously introduced by one of the authors (S.S.Moiseyev, Izv. vuzov.,Fizika, No.3, 159, 1960). The rate of strain tensor is introduced and an equation is obtained that can be solved for the viscosity tensor. The solution of this equation for the case in which the applied electric and magnetic fields are mutually perpendicular is given in an appendix. Including the viscosity tensor in the hydrodynamic des-

Card 1/2

GALEYEV, A.A.; MOISEYEV, S.S.; SAGDEYEV, R.Z.

Theory of the stability of an inhomogeneous plasma and anomalous diffusion. Atom. energ. 15 no.6:451-467 D '63. (MIRA 17:1)

ACCESSION NR: AT4019690

an anisotropic distribution by velocities. A strong magnetic field is shown to suppress the development of aperiodic instability: instability develops only when $\Delta P_i \gtrsim P_i$ (P_i is ion pressure). The entire problem is not fully clarified, but the discussed peculiarities of relativistic plasma facilitate the formation of a shock wave as a result of instability in a strong magnetic field, provided that in the distribution by velocities the number of particles with $\gamma_{e\,max} \sim \infty$ is not exponentially small ($\gamma_{e\,max}$ is the maximum value γ_e which is attained in a particular distribution by velocities). "The author thanks Professor D. A. Frank-Kamenetskiy and R. Z. Sagdeyev for valuable advice". Orig. art. has: 11 formulas.

ASSOCIATION: ASTRONOMICHESKIY SOVET AN SSSR (Astronomical Council, AN SSSR)

SUBMITTED: 30Jul62 DATE ACQ: 12Mar64 ENCL: 00

SUB CODE: AS NO REF SOV: 007 OTHER: 000

Card 2/2

ACCESSION NR: AT4019690 S/2555/63/009/000/0171/0175

AUTHOR: Moiseyev, S. S.

TITLE: Certain peculiarities of "collisionless" shock waves in relativistic plasma

SOURCE: AN SSSR. Astronomicheskiy sovet. Voprosy* kosmogonii (Problems of cosmogony), v. 9, 1963, 171-175

TOPIC TAGS: shock wave, astronomy, astrophysics, relativistic plasma, collisionless shock wave, interstellar gas, relativistic electron

ABSTRACT: Study of the kinetics of rarified relativistic plasma is of great importance because of the low density of the interstellar gas. One of the peculiarities of relativistic plasma is a decrease in the influence of paired collisions in comparison with the influence of collective processes. In this study of the influence of collective processes on the behavior of shock waves in relativistic plasma, it is shown that the thickness of the collisionless shock waves decreases when the energy of relativistic electrons increases and the influence of weak magnetic fields decreases at the same time. The author evaluates the influence of weak frozen-in fields on the character of the isotropization process in a case when the electrons are ultrarelativistic and the ions are nonrelativistic and have

Card 1/2

ZASLAVSKIY, G.M. (Novosibirsk); MOISEYEV, S.S. (Novosibirsk); ORAYEVSKIY, V.N. (Novosibirsk)

Turbulent diffusion of a slightly ionized magnetized plasma. PMTF no. 6:29-33 N-D '63. (MIRA 17:7)

MOISEYEV, S. S.

Dissertation defended for the degree of Candidate of Physicomathematical Science; at the Joint Scientific Council on Physicomathematical and Technical Sciences; Siberian Branch

"Influence of Relativistic Effects on the Kinetics of Rarefield Plasma."

Vestnik Akad. Nauk, No. 4, 1963, pp 119-145

MOISEYEV, S.S.; SAGDEYEV, R.Z.

Shock waves in a rarefied plasma placed in a weak magnetic field.
Dokl. AN SSSR 146 no.2:329-332 S '62. (MIRA 15:9)

1. Predstavleno akademikom A.A. Artsimovichem.
(Plasma (Ionized gases)) (Magnetic fields)

S/056/62/042/004/022/037
B108/B102

Some features of ...

R. Z. Sagdeyev, and V. L. Pokrovskiy are thanked for discussions. There are 6 Soviet references.

SUBMITTED: September 12, 1961

Card 2/2

S/056/62/042/004/022/037
B108/B102

AUTHORS: Zaslavskiy, G. M., Moiseyev, S. S.

TITLE: Some features of the behavior of a relativistic plasma with anisotropic velocity distribution of the electrons

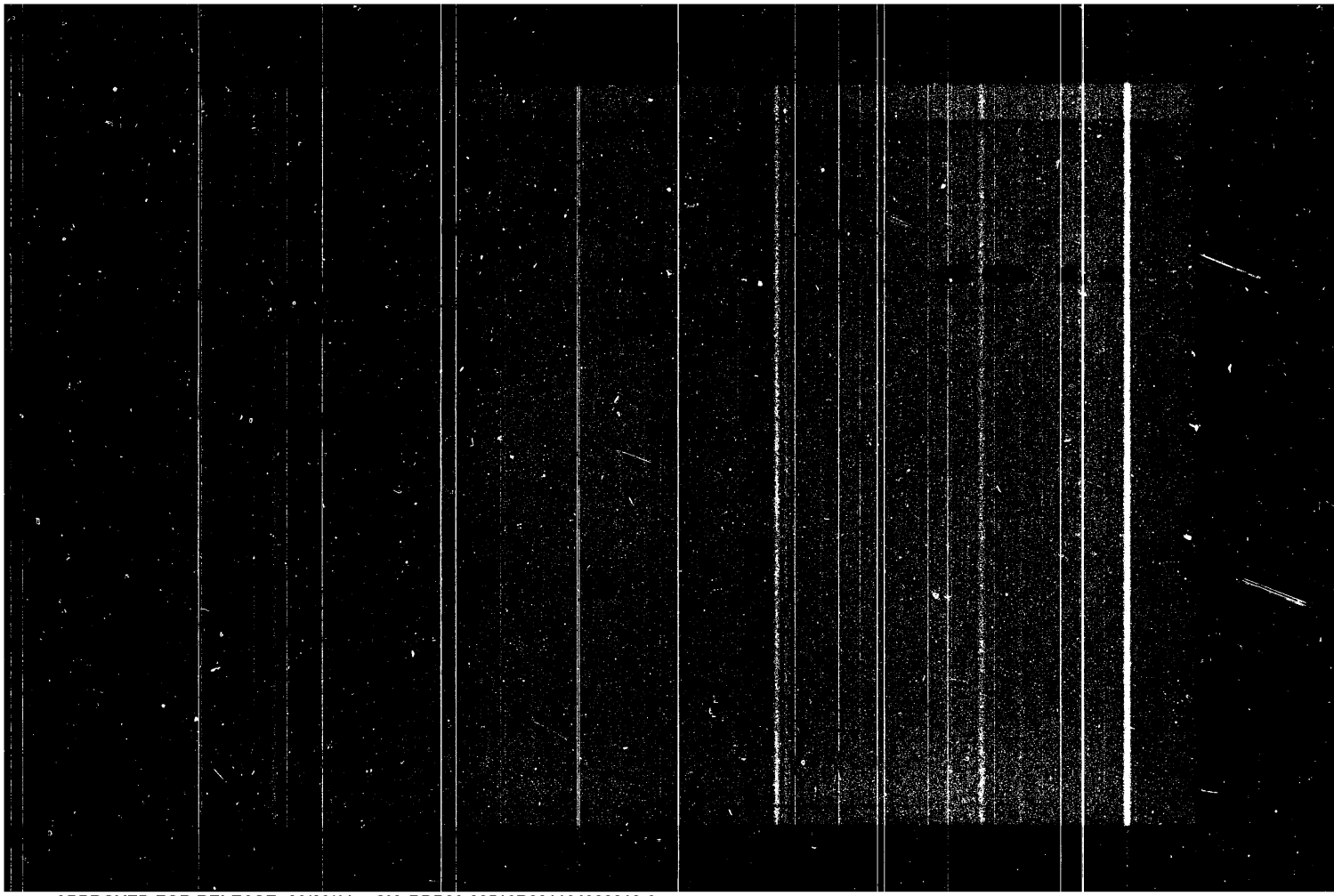
PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 42, no. 4, 1962, 1054 - 1060

TEXT: Some properties of a relativistic plasma with anisotropic velocity distribution are considered in kinetic approximation. The cyclotron instabilities in processes with the characteristic frequency $\mathrm{Re}\,\omega \gtrsim 1/\tau_D$ (τ_D - scattering time in collisions) are calculated. It is shown that they vanish if the external magnetic field is zero. In this case, however, aperiodic instabilities occur. In the ultrarelativistic case both types of instability decrease with γ in such a way that the stable limit is shifted to longer waves. This may mean that a relativistic plasma of finite dimensions has greater stability. The stability of a relativistic plasma is greater than that of a nonrelativistic plasma. G. I. Budker, [illegible].

Card 1/2

ZASLAVSKIY, G.M. (Novosibirsk); MOISEYEV, S.S. (Novosibirsk)

Effect of magnetic viscosity on the stability of a plasma under anisotropic pressure. PMTF no.6:113-120 N-D '62. (MIRA 16:6)
(Magnetohydrodynamics) (Plasma (Ionized gases))



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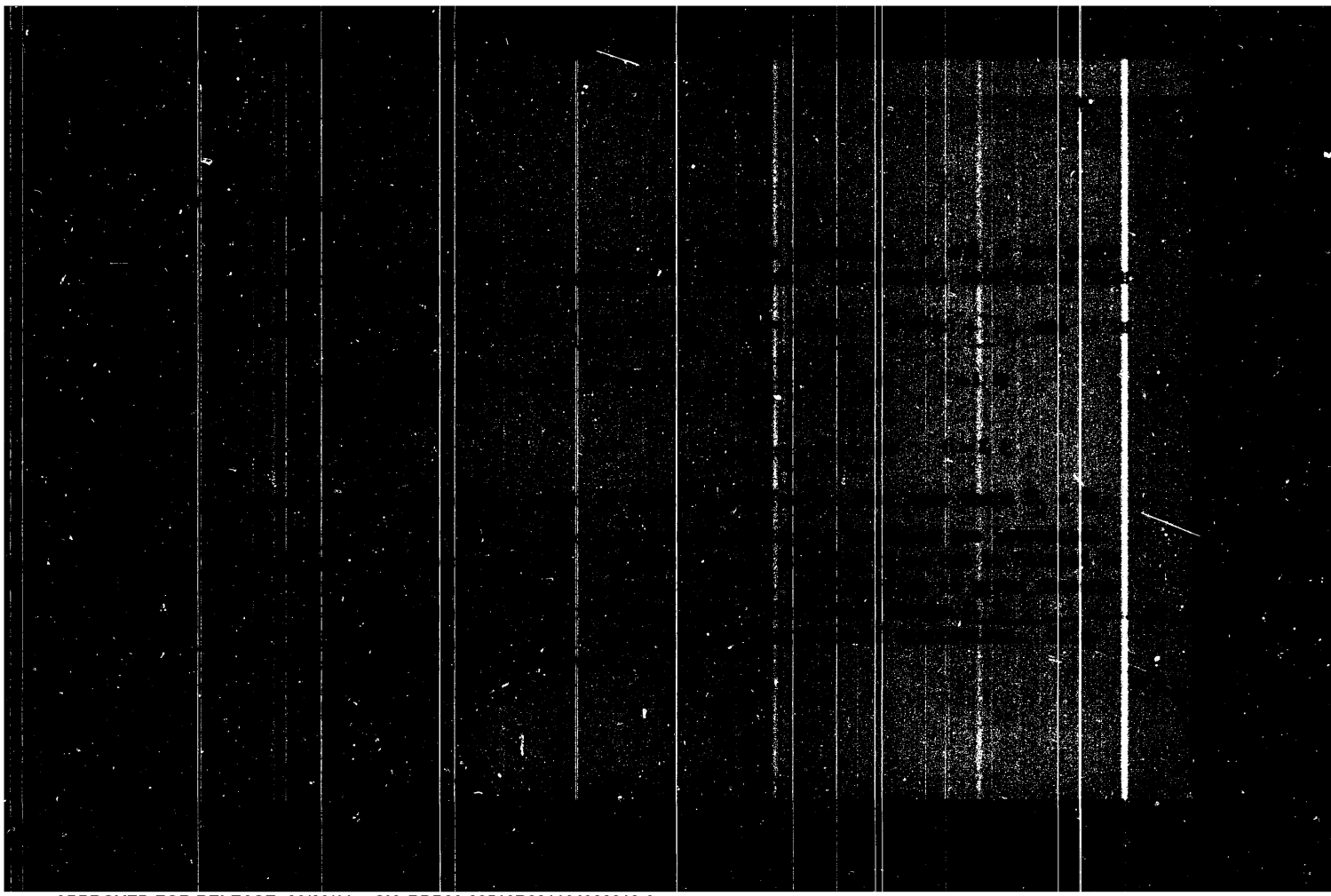

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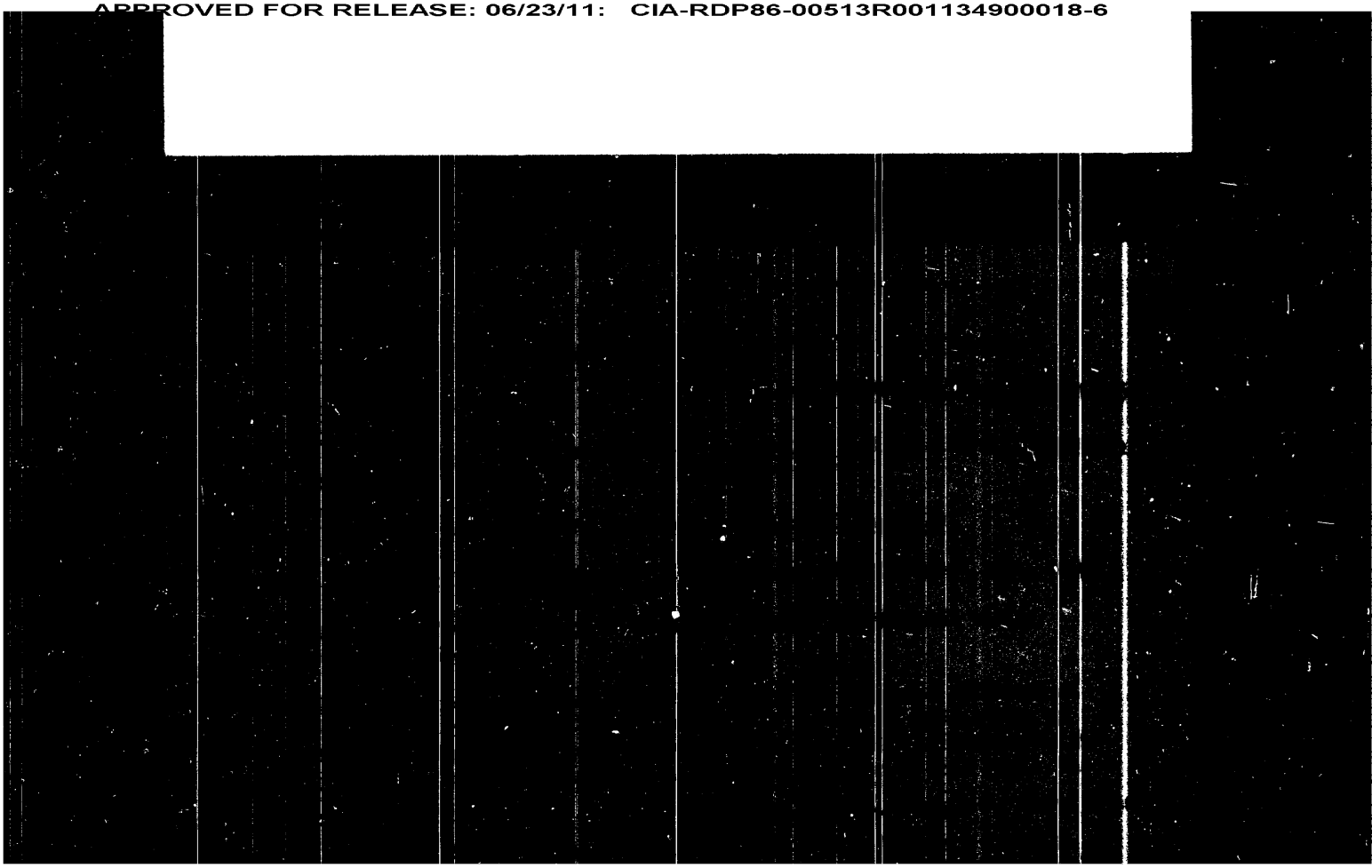

S/058/62/000/007/024/068
A061/A101

A contribution to the...

then the solution of the relevant equations shows that the viscosity tensor components oscillate with a frequency being a multiple of the Larmor frequency and are damped simultaneously. The possibility of a steady thermal flux in the presence of a magnetic field is also investigated. Moreover, the case of two types of charged particles is considered, neglecting the disturbance of ion distribution.

L. Maksimov

[Abstracter's note: Complete translation]

Card 2/2

40149

S/058/62/000/007/024/068
A061/A101

24.6715

AUTHOR: Moiseyev, S. S.

TITLE: A contribution to the kinetic theory of rarefied gases in a magnetic field

PERIODICAL: Referativnyy zhurnal, Fizika, no. 7, 1962, 64, abstract 7B521 ("Nauchn. zap. Poltavsk. in-t inzh. s.-kh. str-va", 1961, sb. 7, 91 - 104)

TEXT: Equations for the viscosity tensor and the thermal flux of a system of charged particles in the presence of a magnetic field are derived from Boltzmann equations. It is assumed that deviations from the local Maxwellian distribution (with macrovelocity parallel to the magnetic field) are sufficiently small, and that the distribution function can be described fully by the usual thirteen moments. Particular examples of the solution of equations describing the behavior of viscosity tensor and thermal flux are considered. If initial conditions are such that there are no macromotions of the gas, density and pressure are constant, and the viscosity tensor and thermal flux are only time-dependent,

Card 1/2

31623
S/207/61/000/006/004/025
A001/A101

On behavior of some plasma ...

$$\omega < \left(\frac{\sigma_1}{\sigma}\right)^2 \frac{\omega_p^2}{\Omega} \Big/ \left(1 + \frac{\sigma_1}{\sigma}\right)^2 \qquad (1.20)$$

where σ_1 and σ are distribution parameters, $\omega_p^2 = \frac{4\pi e^2 n_0}{m}$, and $\Omega = \left|\frac{eH}{mc}\right|$, n_0 is the density of electrons. The next problem considered is the role of radiation of electrons in a magnetic field which may turned out to be essential in studying instability of relativistic plasma. On the assumption that characteristic time of radiation is considerably less than that of scattering, the distribution of electrons is investigated and found to be anisotropic. The anisotropy manifests itself in the following way: $T_{\parallel} = T$; $T_{\perp} = T\exp(-Kt)$, where T is temperature of the initial Maxwell distribution of electrons. At $T_{\perp} < T_{\parallel}$, there is no instability of electronic oscillations. There are 6 Soviet-bloc references.

SUBMITTED: May 26, 1961

Card 2/2

31629
S/207/61/000/006/004/025
A001/A101

24.6713

AUTHORS: Zaslavskiy, G.M., Moiseyev, S.S. (Novosibirsk)

TITLE: On behavior of some plasma states with anisotropic velocity distribution in a magnetic field

PERIODICAL: Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, no. 6, 1961, 24 - 28

TEXT: In the present article the authors analyze cyclotron instability of anisotropic relativistic plasma. They use relativistic kinetic equation of the distribution function of electrons for processes with a frequency considerably exceeding the frequency of collisions. Making use of cylindrical coordinates with z-axis directed along the H_0 (constant magnetic field) they derive the expression for the tensor of dielectric constant of the plasma $\varepsilon_{\alpha\beta}$ and calculate its 5 non-vanishing components, other 4 being equal to zero. Instability can arise, as in the non-relativistic case, when the sign of anti-hermitian part of $\varepsilon_{\alpha\beta}$ is reversed. Investigating the conditions which may lead to this case, the authors establish the following formula expressing the condition of instability:

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easily be computed and is given by Eq (5). The analysis is continued to obtain the transport equation and an expression for the thickness of the shock-wave.

Acknowledgments are expressed to Professor V.L. German for valuable advice.

There are 9 references, 6 of which are Soviet, 1 French and 2 English.

ASSOCIATION: Poltavskiy institut inzhenerov sel'skokhozyaystvennogo stroitel'stva (Poltava Institute for Agricultural Building Engineering)

SUBMITTED: July 13, 1959

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On the Structure of a Shock-wave in the Relativistic Case

distribution function (Belyayev and Budker - Ref 3). In these equations u_k is the 4-velocity of the particle, p_k is its 4-momentum, x_k are the space and time coordinates, L is the Coulomb logarithm, e, e' are the charges on the particles and c is the velocity of light. Twice repeated subscripts indicate summations. Latin subscripts assume four values, while Greek subscripts assume three values. The solution of the kinetic equation is sought in the form:

$$F_B = F + \tilde{F} \qquad (3)$$

where the second term characterizes the gas particles which have penetrated into the shock-wave from the presonic current, while the first term refers to those from the ultrasonic current. It is assumed that, outside the shock-wave, the distribution is Maxwellian and hence in the invariant form F is given by Eq (4) (Belyayev and Budker - Ref 3). The normalizing constant A can

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S/139/60/000/03/029/045
E032/E314

AUTHOR: Moiseyev, S.S.

TITLE: On the Structure of a Shock-wave in the Relativistic Case

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Fizika, 1960, Nr 3, pp 158 - 164 (USSR)

ABSTRACT: The structure of a shock-wave can be investigated by introducing dissipative terms into the equations of relativistic gas dynamics. However, this procedure is difficult because it is necessary to introduce a dissipative term into the formula for the current density (Landau and Lifshits - Ref 1). On the other hand, the Mott-Smith method (Ref 2) can be extended to the relativistic case without changing the character of the final equations and the difficulty consists only in computing the integral in the transport equation which supplements the conservation equations. The present paper discusses the behaviour of a relativistic gas inside a shock-wave with the aid of the kinetic equation given by Eqs (1) and (2), where F is the scalar

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arbitrary system of reference is obtained. The expression is very complicated. The author finally thanks Professor V. L. German for his interest and advice, as well as C. I. Bukker and S. I. Braginskiy for discussions. There are 2 references, 1 of which is Soviet.

ASSOCIATION: Poltavskiy stroitel'nyy institut (Poltava Building Institute)

SUBMITTED: April 4, 1959

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On the Distribution Function of Dissipative Processes in a Diluted Relativistic Gas

$g^{(1)}_{\alpha} = \xi_{\alpha}/2\sqrt{\pi}\,\sigma^{1/4}\,K_3^{1/2}(\sigma)$; $\xi_{\alpha} = \sigma^{1/2}\,u_{\alpha}$; the $K_{\nu}(\sigma)$ are the Mac-Donald functions. From the known scalar distribution function $F = \mathrm{ief}(x,p)\,\delta(H + mc)$, where x and p are the four-coordinates and -momenta of the particles and H - the invariant Hamiltonian, the ordinary distribution function $f(x,p)$ is now represented in the form $f(x,p) = \exp(\sim\sigma\sqrt{1+u^2})\{\ldots\ldots\}$. In the $\{\ldots\ldots\}$ there is a complicated expression, functions of $K_{\nu}(\sigma)$, $\tau_{\alpha\beta}$, ξ_{α}, ξ_{β}, and $T_{\alpha\beta\gamma i}$; the latter are the spatial components of the tensor T_{ikl}. The T_{ikl} are explicitly written down and substituted for an arbitrary system of reference, so that finally the scalar distribution function $f(x,p)$ for an

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24(8),21(5)
AUTHOR: Moiseyev, S. S. SOV/56-37-2-35/56

TITLE: On the Distribution Function of Dissipative Processes in a Diluted Relativistic Gas

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1959, Vol 37, Nr 2(8), pp 553-554 (USSR)

ABSTRACT: For the treatment of diluted gases of flows with large gradients it is necessary to operate with the kinetic theory when wishing to describe the motion. H. Grad describes such flows, his paper (Ref 1) is discussed in the introduction. In the present "Letter to the Editor" the author sets up the distribution function for a diluted relativistic gas in consideration of viscosity and thermal conductivity; for this purpose he introduces orthogonal polynomials which are orthogonal with the weight $e^{-\sigma' u^2}$. $\sigma' = mc^2/kT$, $u^2 = u_\alpha^2$, u_α are the spatial components of the four-velocity of the gas particles. [illegible] of the kind mentioned are $g^{(o)} = 1/2\sqrt{\pi}\,\sigma^{1/2}\,\ldots$,

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MOISEYEV, Stefan Sergeyevich; KOSTYUKOVETS, F.T., red.; MINCHUKOVA, T.G., red.; MORGUNOVA, G.M., tekhn. red.

[New visual aids in mathematical geography and astronomy] Novye nagliadnye posobiia po matematicheskoi geografii i astronomii; dlia uchitelei i studentov pedinstitutov. Izd-vo M-va vysshego, srednego spetsial'nogo i professional'nogo obrazovaniia BSSR, 1963. 244 p. (MIRA 16:5)
(Geography, Mathematical--Audio-visual aids)
(Astronomy--Audio-visual aids)

Elements of automation ...

return stroke and an intensifier by means of servo-motors placed under the valves. The system, developed by the TsNIITMASh, should facilitate the conversion of hydraulic forging to automatic forging. It is stated that the Sverdlovsk NIPIGORMASh together with the Ural'skiy politekhnicheskiy institut (Ural Polytechnic Institute) carried out investigations at the Uralmashzavod (Ural Machine Plant) on the automation of smith forging, and on a method of expanding forgings of the retainer ring and ring type in drop and press forging. As a result of these investigations, it was deemed possible to develop methods of expanding ring and retainer ring forgings by using a program control, the new oil system for controlling hydraulic forging presses also being recommended for use. The author concludes that, for further automation of hydraulic forging presses, it would be advisable to carry out research and experimental design work on the modernization of Soviet forging presses. There are 9 figures and 1 Soviet-bloc reference.

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S/182/61/000/011/[illegible]
D038/D113

AUTHOR: Moiseyev, S. P.

TITLE: Elements of automation of hydraulic forging presses

PERIODICAL: Kuznechno-shtampovochnoye proizvodstvo, no. 11, 1961, 25-[illegible]

TEXT: The article deals with the automation of smith forging, and problems on stopping the hammer head on completion of a forging, and on the control of strokes of a cross bar of hydraulic forging presses. The author discusses 2 devices: (1) a special relieving device which consists of a valve or a slide valve with a spring and an electromagnet built into the control system of a 3,000-ton capacity hydraulic forging press. The device is connected with the oil pressure piping which feeds oil to a throttle slide valve at 100 at. When the hammer head of the press reaches a specified forging dimension, a light signal opens the device, thus stopping the hammer head without interrupting the working cycle of the press. The device was developed by the NIITMASh of the Leningrad Sovnarkhoz; (2) a new oil system for the control of cross bar strokes in a hydraulic forging press; the system raises every valve in the water distributors of working cylinders, cylinders of

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Modernization of Die-Forging Equipment SOV/5653

on Problems in the Modernization and Operation of Die-Forging Equipment, held in November 1958 in Leningrad. The Conference was called by Leningradskiy Sovet narodnogo khozyaystva, Sektsiya obrabotki metallov davleniyem Leningradskogo oblastnogo pravleniya NTO Mashprom (Leningrad Council of the National Economy, Section of Metal Pressworking at the Leningrad Oblast Board of the Scientific and Technical Society of the Machine Industry) and Leningradskiy mekhanicheskiy institut (Leningrad Mechanical Engineering Institute). Actual problems in the modernization, operation, and repair of die-forging equipment are described. Analyses are provided for problems involved in the mechanization and automation of die-forging and stamping operations. Also included are practical data to be used in the modernization of equipment. No personalities are mentioned. There are 59 references: 56 Soviet, 2 German, and 1 English.

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